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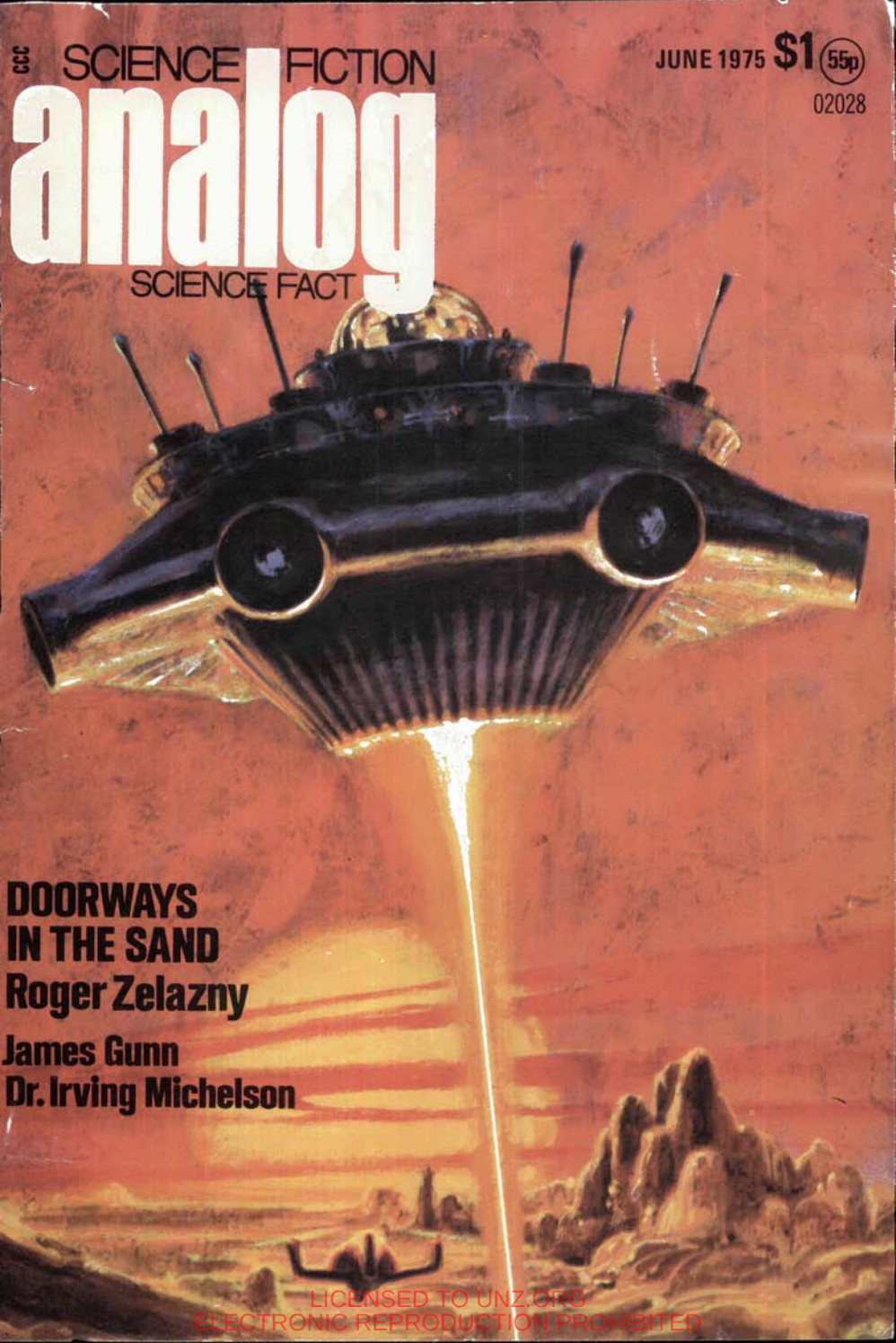

DOORWAYS IN THE SAND
Roger Zelazny

James Gunn
Dr. Irving Michelson

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A Calendar of Upcoming Events

Crisis and Opportunity. Info: World Future Society, 4916 St. Elmo Avenue, Washington, DC 20014.

June 25-June 29, 1975:
STAR TREK 75/ HOUSTONCON (Star Trek, film, and nostalgia oriented conference) at Royal Coach Inn, Houston, Texas. Registration: $7.50 until April 1; $10 thereafter. Info: Earl Blair, 2511 Pennington Street, Houston, Texas 77016.

June 27-June 29, 1975:
MIDWESTCON 26 ("Relax-a-con") at Quality Motel Central, Cincinnati, Ohio. Guest of Honor, Andrew J. Offutt. Info: Lou Tabakow, 3953 St. Johns Terrace, Cincinnati, Ohio 45236.

May 29-June 1, 1975:
VUL-CON 2 (Star Trek oriented conference) at Braniff Hotel, New Orleans, Louisiana. Registration: $8 in advance; $10 at the door. Info: Post Office Box 8087, New Orleans, Louisiana 70182.

May 30-June 1, 1975:
KUBLA KHAN KHUBED at Rodeway Inn, Nashville, Tennessee. Guest of Honor, Andrew J. Offutt; Master of Ceremonies, Frank Kelly Freas. Registration: $7 in advance; $8 at the door. Info: Ken Moore, 647 Devon Drive, Nashville, Tennessee 37220.

August 14-August 17, 1975:
AUSSIECON 75 (33rd World Science Fiction Convention) at Southern Cross Hotel, Melbourne, Australia. Guest of Honor, Ursula K. Le Guin. Fan Guests of Honor, Mike Glicksohn and Susan Wood. Info: Box 4039, Melbourne 3001 Australia. US Agents: Jack Chalker, 5111 Liberty Heights Avenue, Baltimore, Maryland 21207; or Fred Patten, 11863 W. Jefferson Boulevard, #1, Culver City, California 90230. Canadian Agent: John Millard, 86 Broadway Avenue, #18, Toronto, Ontario M4P 1T4, Canada. Registration: $12 attending; $4 nonattending.

June 2-June 5, 1975:
WORLD FUTURE SOCIETY 2nd GENERAL ASSEMBLY at the Washington-Hilton, Washington, DC. Topic: The Next 25 Years,

—ANTHONY R. LEWIS

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NONE SO BLIND

There are none so blind as those who *have to* see.

It is widely supposed that the Era of Faith was prevalent during the Middle Ages, and was supplanted first by the Era of Reason, and then by the Era of Science. Yet today, scientific thinking is besieged on all sides: by politicians who don't understand what science can do to solve political problems, by tax-burdened citizens who have been told that science is expensive and downright dangerous, by zealots of various beliefs who regard scientific thinking as antithetical to a true understanding of the universe.

Faith is the gift of believing without evidence. And, looking around at the numbers of people who profess to believe in various mystic cults, Unidentified Flying Objects, astrology, Erich von Däniken, the Bermuda Triangle, Uri Geller, Creationism (as opposed to Evolution), Immanuel Velikovsky, the Dean Drive . . . we are truly in an Era of Faith today.

In *Crime and Punishment*, Dostoevski's Grand Inquisitor points out that human beings need and desire "miracle, mystery and authority." Although the average American's faith in organized religion seems to be steadily dwindling, the UFO-astrology-fundamentalist kinds of belief are certainly stronger today than they have been at any time in many generations. Some people, many people, *have to* see. They absolutely require a belief in something Out There that is watching over us and guiding our destiny.

Scientists—people who place their faith in the scientific method of thinking—are not much different. They too require a system of belief for which there is no final proof. They believe that the universe is rational and consistent, that one and one will always equal two, that nobody's Up There pulling strings to make everything behave one way today and a different way tomorrow. As Einstein so succinctly put it, "The eternal mystery of the world is its comprehensibility." Scientific thinkers believe we can un-

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derstand the universe, using the evidence of our senses and the integrating power of our minds.

And they have one overwhelming advantage over all the other beliefs the world has ever known. Science WORKS. Every time it's been tested, one and one have indeed added up to two. And a steady progression of scientific thinking, starting in the Sixteenth Century, has completely and unalterably changed the way the human race lives. These changes have been, for the most part, decidedly in favor of the betterment of the human condition. Anyone who doesn't think so can try living in one of the medieval villages that dot India and Southeast Asia, to appreciate the difference that science has made in our medicines, our technology, our food, our lifespans, our living standards, our enjoyment of life.

I count myself a believer in the scientific way of thinking. And when confronted with a von Däniken, or a rabid Fundamentalist, or a breathless new UFO report, I ask myself: "Where is the evidence?"

Take UFO's, for example. Where is the evidence that they are anything more than natural phenomena, seen perhaps under unusual circumstances? Just this morning I chatted with an acquaintance who "flew in a UFO." He was flying in a light plane, on a foggy night in rural Texas, while the pilot of the craft practiced touch-and-go landings on a local airstrip, repeatedly. When they finally landed and started home, they learned that the local police had been racing up and down the highways trying to get a fix on the "flying saucer" that had been buzzing the town all night. The "saucer," of course, was nothing more than their plane's running lights, seen through the confusing fog.

Most scientists reject out of hand the possibilities that some UFO's are extraterrestrial visitors. Government-supported investigations of the UFO phenomenon have *started with* the assumption that it's all nonsense, and the investigators' job is to thump the official seal of disapproval on the entire matter. Such scientists are just as blind as anyone else who *has to see* his particular point of view ascendant, no matter what the evidence. Carl Sagan, no friend of UFOlogy, smiles with anticipation at the thought that they might actually be visitors from other worlds. "What a wonderful thing that would be!" he says. But, he asks, where is the evidence that this is so?

Up until very recently, the only evidence concerning UFO's was nothing more than unreliable eyewitness reports, like the Texas policemen who thought a buzzing airplane was a blinking "flying saucer."

Something stronger has turned up.

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In last December's issue of *Astronomy* magazine (the liveliest and most graphically beautiful of all the stargazing journals), editor Terence Dickinson wrote a lead article titled, "The Zeta Reticuli Incident."

The evidence he revealed consists of a star map drawn by Betty Hill, who was allegedly taken aboard a UFO in 1961 with her husband, Barney. The Hills told their story several years after the incident, giving rise to books such as *Incident at Exeter* and *The Interrupted Journey*. Inside the spacecraft, Mrs. Hill saw a three-dimensional star map (she claims), which she reproduced in 1964, under post-hypnotic suggestion from a psychiatrist. In 1969 Marjorie Fish, an Ohio schoolteacher and amateur astronomer, discussed Mrs. Hill's rough sketch with her, and then set about constructing three-dimensional models of the stars in the Sun's neighborhood, using beads suspended on strings, to see if she could find the same pattern of stars that Mrs. Hill had drawn.

She did. Ms. Fish's model showed that the Hill map coincides closely with the positions of sixteen solar-type stars, including the Sun, as seen from the point-of-view of the double star Zeta Reticuli. The chances of this being a coincidence are considered remote by the astronomers and mathematicians cited in the article, although there are so many C-type stars in this region of space (within about fifty light-years of Earth) that some experts feel almost any random pattern could be reproduced.

Ms. Fish, incidentally, used the latest and most accurate star catalogs available to produce her three-dimensional model. It is doubtful that it could have been built on the scantier knowledge from earlier catalogs.

The map is far from overwhelming evidence for the existence of extraterrestrial visitors. But it is the first hint of solid evidence to enter this thirty-year-long controversy. If the Hill/Fish map can be shown to be nothing more than a random coincidence, then the case for UFO's as alien visitors suffers another setback. If the map holds up, the UFO believers will gain at least one slightly skeptical adherent: me. And we'd better tune our radio telescopes to the vicinity of Zeta Reticuli.

What does this do to von Däniken's claims about ancient visits to Earth by the riders of the Chariots of the Gods? Nothing much. The evidence there seems very substantial, and all stacked against von Däniken. The miracles of engineering and monument-building that he ascribes to the Chariot-riding visitors were quite clearly built by humans, for humans. There is written evidence showing how the pyramids were built; there are contemporary demonstrations available for anyone who seriously wants to

continued on page 176

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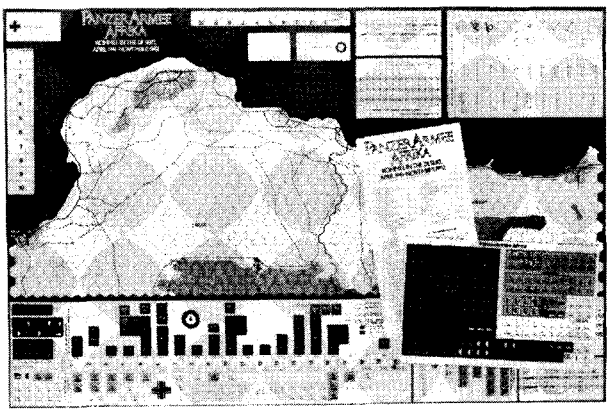

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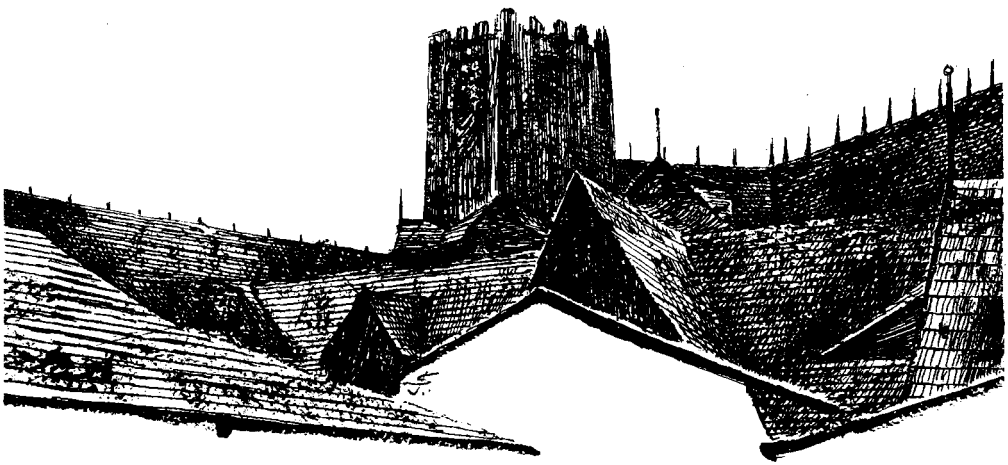
Doorways in the sand

Part One of Three Parts. Adulthood is not reached at a certain calendar date. Sometimes a person must go to great lengths—and heights!—to achieve maturity.

ROGER ZELAZNY



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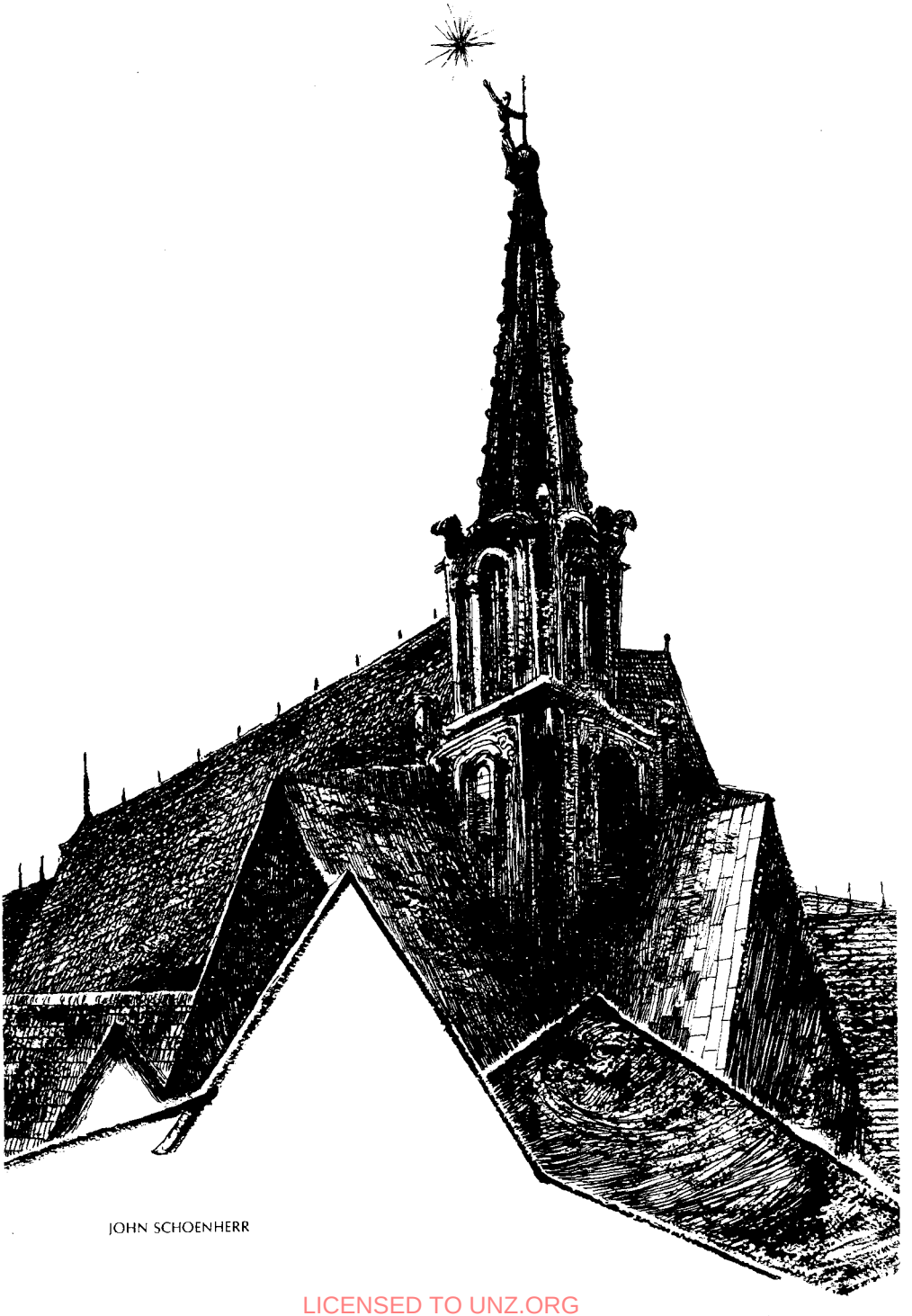

JOHN SCHOENHERR

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Part One

I.

Lying, left hand for a pillow, on the shingled slant of the roof, there in the shade of the gable, staring at the cloud-curdles in afternoon's blue pool, it seemed that, between blinks, above the campus and myself, an instant piece of sky-writing had occurred.

DO YOU SMELL ME DED? I read.

A moment's appraisal and it was gone. I shrugged. I also sniffed at the small breeze that had decided but moments before to pass that way.

"Sorry," I mumbled to the supernatural journalist. "No special stinks."

I yawned then and stretched. I had been dozing, had regarded the tag-end of a dream, I supposed. Probably just as well that I could not recall it. I glanced at my watch. It indicated that I was late for my appointment. But then, it could be wrong. In fact, it usually was.

I edged forward into a 45° hunker, my heels still resting against the ice-catching eyelets, my right hand now upon the gable. Five stories below me, the Quad was a study in green and concrete, shade and sunlight, people in slow motion, a fountain like a phallus that had taken a charge of buckshot at its farther end. Beyond the phountain lay Jefferson Hall, and up on Jeff's third floor was the office of my latest adviser, Dennis Wexroth.

I patted my hip pocket. The edge of my schedule card still jutted there. Good.

To go in, go down, go across and go up seemed an awful waste of time when I was already up. Although it was somewhat out of keeping with the grand old tradition as well as my personal practice to do much climbing before sundown, the way across—with all the buildings connected or extremely adjacent—was easy and reasonably inconspicuous.

I worked my way about the gable and over to the far eave. About three feet outward and six down, an easy jump, and I was on the library's flat roof and trotting. Across the roofs and about the chimneys on a row of converted townhouses then. Over the chapel, Quasimodo-like—a bit tricky there—along a ledge, down a drainpipe, another ledge, through the big oak tree and over to the final ledge. Excellent! I had saved six or seven minutes, I was certain.

. . . And I felt most considerate as I peered in the window, for the clock on the wall showed me that I was three minutes early.

Wide-eyed, open-mouthed, Dennis Wexroth's head rose from its reading angle, turned slowly, darkened then, continued upward, dragged the rest of him to his feet, about his desk, toward me.

I was looking back over my shoulder to see what he was glaring at when he heaved the window

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open and said, "Mr. Cassidy, just what the hell are you doing?"

I turned back. He was gripping the sill as if it were very important to him and I had sought its removal.

"I was waiting to see you," I said. "I'm three minutes early for my appointment."

"Well, you can just go back down and come in the same way any—" he began. Then, "No! Wait!" he said. "That might make me an accomplice to something. Get in here!"

He stepped aside and I entered the room. I wiped my hand on my trousers, but he declined to take it.

He turned away, walked back to his desk, sat down.

"There is a rule against climbing around on the buildings," he said.

"Yes," I said, "but it's just a matter of form. They had to pass something as a disclaimer, that's all. Nobody pays any atten—"

"You," he said, shaking his head. "You are the reason for the rule. I may be new here, but I've done my homework so far as you are concerned."

"It's not really very important," I said. "So long as I'm discreet about it, nobody much cares—"

"Acrophilia!" he snorted, slapping the folder that lay on his desk. "You once bought a screwball medical opinion that saved you from being suspended, that even got you some sympathy, made you a minor celebrity. I just read it. It's a piece of garbage. I don't buy it. I don't even think it's funny."

"I like to climb things," I said. "I like to be up in high places. I never said it was funny, and Dr. Marko is not a screwball."

He emitted a labial consonant and began flipping through pages in the folder. I was beginning to feel a dislike for the man. Close-cut, sandy hair, a neat, matching beard and mustache that almost hid his mean little mouth. Somewhere in his mid-twenties, I guessed. Here he was getting nasty and authoritarian and not even offering me a seat, and I was probably several years his senior and had taken pains to get there on time. I had only met him once before, briefly, at a party. He had been stoned at the time, and considerably more congenial. Hadn't seen my file yet, of course. Still, that should make no difference. He should deal with me *de novo*, not on the basis of a lot of hearsay. But advisers come and go—general, departmental, special. I've dealt with the best and I've dealt with the worst. Offhand, I can't say who was my favorite. Maybe Merimee. Maybe Crawford. Marimee helped me head off a suspension action. A very decent fellow. Crawford almost tricked me into graduating, which would probably have gotten him the Adviser of the Year Award. A good guy, nevertheless. Just a little too creative . . . Where are they now?

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I drew up a chair and made myself comfortable, lighting a cigarette and using the wastebasket for an ashtray. He did not seem to notice, but went on paging through the materials.

Several minutes passed in this fashion, then, "All right," he said, "I'm ready for you."

He looked up at me then and he smiled.

"This semester, Mr. Cassidy, we are going to graduate you," he said.

I smiled back at him.

"That, Mr. Wexroth, will be a cold day in hell," I said.

"I believe that I have been a little more thorough than my predecessors," he replied. "I take it you are up on all the university's regulations?"

"I go over them fairly regularly."

"I also assume you are aware of all the courses being offered this coming semester?"

"That's a safe assumption."

He withdrew a pipe and pouch from within his jacket, and he began loading the thing, slowly, with great attention to each fleck and strand, seeming to relish the moment. I had had him pegged as a pipe-smoker all along.

He bit it, lit it, puffed it, withdrew it and stared at me through the smoke.

"Then we've got you on a mandatory graduation," he said, "under the departmental major rule."

"But you haven't even seen my pre-registration card."

"It doesn't matter. I've had every choice you could make, every possible combination of courses you might select to retain your full-time status worked out by one of the computer people. I had all of these matched up with your rather extensive record, and in each instance I've come up with a way of getting rid of you. No matter what you select, you are going to complete a departmental major in something."

"Sounds as if you've been pretty thorough."

"I have."

"Mind if I ask why you are so eager to get rid of me?"

"Not at all," he replied. "The fact of the matter is, you are a drone."

"A drone?"

"A drone. You don't do anything but hang around."

"What's wrong with that?"

"You are liability, a drain on the intellectual and emotional resources of the academic community."

"Crap," I observed. "I've published some pretty good papers."

"Precisely. You should be off teaching or doing research—with a couple of degrees after your name—not filling a space some poor undergrad could be occupying."

I dismissed a mental picture of the poor would-be undergrad—lean, hollow-eyed, nose and fingertips pressed against the glass, his breath fogging it, slavering after the edu-

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cation I was denying him—and I said, "Crap again. Why do you really want to get rid of me?"

He stared at his pipe, almost thoughtfully, for a moment, then said, "When you get right down to basics, I just plain don't like you."

"But why? You hardly know me."

"I know *about* you—which is more than sufficient." He tapped my file. "It's all in there," he said. "You represent an attitude for which I have no respect."

"Would you mind being more specific?"

"All right," he said, turning the pages to one of many markers that protruded from the file. "According to the record, you have been an undergraduate here for—let me see—approximately thirteen years."

"That sounds about right."

"Full-time," he added.

"Yes, I've always been full-time."

"You entered the university at an early age. You were a precocious little fellow. Your grades have always been quite good . . ."

"Thank you."

"That was not a compliment. It was an observation. Lots of grad material too, but always for undergrad credit. Quantity-wise, in fact, there is the substance of a couple doctorates in here. Several composites suggest themselves—"

"Composites do not come under the departmental major rule."

"Yes, I am well aware of that. We are both quite well aware of that. It has become obvious over the years that your intention is to retain your full-time status but never to graduate."

"I never said that."

"An acknowledgment would be redundant, Mr. Cassidy. The record speaks for itself. Once you had all the general requirements out of the way, it was still relatively simple for you to avoid graduation by switching your major periodically and obtaining a new set of special requirements. After a time, however, these began to overlap. It soon became necessary for you to switch every semester. The rule concerning mandatory graduation on completion of a departmental major was, as I understand it, passed solely because of you. You have done a lot of side-stepping, but this time you are all out of sides to step to. Time runs, the clock will strike. This is the last interview of this sort you will ever have."

"I hope so. I just came to get my card signed . . ."

"You also asked me a question."

"Yes, but I can see now that you're busy and I'm willing to let you off the hook."

"That's quite all right. I'm here to answer your questions. To continue, when I first learned of your case, I was naturally curious as to the reason for your peculiar behavior. When I was offered the opportunity of becoming your adviser, I made it my business to find out—"

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" 'Offered'? You mean you're doing this by choice?"

"Very much so. I wanted to be the one to say good-bye to you, to see you off on your way into the real world."

"If you'd just sign my card—"

"Not yet, Mr. Cassidy. You wanted to know why I dislike you. When you leave here—via the door—you will know. To begin with, I have succeeded where my predecessors failed. I am familiar with the provisions of your uncle's will."

I nodded. I had had a feeling he was driving that way.

"You seem to have exceeded the scope of your appointment," I said. "That is a personal matter."

"When it touches upon your activities here, it comes within my area of interest—and speculation. As I understand it, your late uncle left a fairly sizable fund out of which you receive an extremely liberal allowance for so long as you are a full-time student working on a degree. Once you receive a degree of any sort, the allowance terminates and the balance remaining in the fund is to be distributed to a variety of charitable organizations. I believe I have described the situation fairly?"

"As fairly as an unfair situation can be described, I suppose. Poor, batty old Uncle Albert. Poor me, actually. Yes, you have the facts straight."

"It would seem that the man's intention was to provide for your receiving an adequate education—no more, no less—and then leaving it to you to make your own way in the world. A most sensible notion, as I see it."

"I had already guessed that."

". . . And one to which you, obviously, do not subscribe."

"True. Two very different philosophies of education are obviously involved here."

"Mr. Cassidy, I believe that economics rather than philosophy controls the situation. For thirteen years you have contrived to remain a full-time student without taking a degree, so that your stipend would continue. You have taken gross advantage of the loophole in your uncle's will because you are a playboy and a dilettante, with no real desire ever to work, to hold a job, to repay society for suffering your existence. You are an opportunist. You are irresponsible. You are a drone."

"All right. You have satisfied my curiosity as to your way of thinking. Thank you."

His brows fell into a frown and he studied my face.

"Since you may be my adviser for a long while," I said, "I wanted to know something of your attitude. Now I do."

He chuckled.

"You are bluffing."

I shrugged.

"If you'll just sign my card, I'll be on my way."

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"I do not have to see that card," he said slowly, "to know that I will *not* be your adviser for a long while. This is it, Cassidy, an end to your flippancy."

I withdrew the card and extended it. He ignored it and continued, "Along with your demoralizing effect here at the university, I cannot help but wonder how your uncle would feel if he knew how his wishes were being thwarted. He—"

"I'll ask him when he comes around," I said. "But when I saw him last month, he wasn't exactly turning over."

"Beg pardon? I didn't quite . . ."

"Uncle Albert was one of the fortunate ones in the Bide-A-Wee scandal. About a year ago. Remember?"

He shook his head slowly.

"I'm afraid not. I thought your uncle was dead. In fact, he has to be. If the will . . ."

"It's a delicate philosophical point," I said. "Legally, he's dead all right. But he had himself frozen and stored at Bide-A-Wee—one of those cryonic outfits. The proprietors proved somewhat less than scrupulous, however, and the authorities had him moved to a different establishment along with the other survivors."

"Survivors?"

"I suppose that's the best word. Bide-A-Wee had over five hundred customers on their books, but they actually only had around fifty on ice. Made a tremendous profit that way."

"I don't understand. What became of the others?"

"Their better components wound up in gray market organ banks. That was another area where Bide-A-Wee turned a handsome profit."

"I do seem to remember hearing about it now. But what did they do with the—remains?"

"One of the partners also owned a funeral establishment. He just disposed of things in the course of that employment."

"Oh. Well . . . Wait a minute. What did they do if someone came around and wanted to view a frozen friend or relative?"

"They switched nameplates. One frozen body seen through a frosted panel looks pretty much like any other—sort of like a popsicle in cellophane. Anyway, Uncle Albert was one of the ones they kept for show. He always was lucky."

"How did they finally get tripped up?"

"Tax evasion. They got greedy."

"I see. Then your uncle actually could show up for an accounting one day?"

"There is always that possibility. Of course, there is yet to be a successful revival."

"The possibility doesn't trouble you?"

"I deal with things as they arise. So far, Uncle Albert hasn't."

"Along with the university and your uncle's wishes, I feel obliged

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to point out that you are doing violence in another place as well."

I looked all around the room. Under my chair, even.

"I give up," I said.

"Yourself."

"Myself?"

"Yourself. By accepting the easy economic security of the situation, you are yielding to inertia. You are ruining your chances of ever really amounting to anything. You are growing in your dronehood."

"Dronehood?"

"Dronehood. Hanging around and not doing anything."

"So you are really acting in my best interests if you succeed in kicking me out, huh?"

"Precisely."

"I hate to tell you, but history is full of people like you. We tend to judge them harshly."

"History?"

"Not the department. The phenomenon."

He sighed and shook his head. He accepted my card, leaned back, puffed on his pipe, began to study what I had written.

I wondered whether he really believed he was doing me a favor by trying to destroy my way of life. Probably.

"Wait a minute," he said. "There's a mistake here."

"No mistake."

"The hours are wrong."

"No. I need twelve and there are twelve."

"I'm not disputing that, but—"

"Six hours, personal project, interdisciplinary, for art history credit, on site, Australia in my case."

"You know it should really be anthropology. But that would complete a major. But that's not what I'm—"

"Then three hours of comparative lit with that course on the troubadours. I'm still safe with that, and I can catch it on video—the same as with that one-hour current events thing, for social science credit. Safe there, and that's ten hours. Then two hours credit for advanced basket-weaving, and that's twelve. Home free."

"No, sir! You are not! That last one is a three-hour course, and that gives you a major in it!"

"Haven't seen Circular 57 yet, have you?"

"What?"

"It's been changed."

"I don't believe you."

I glanced at his In basket.

"Read your mail."

He snatched at the basket, he rifled it. Somewhere near the middle of things, he found the paper. Clocking his expressions, I noted disbelief, rage and puzzlement within the first five seconds. I was hoping for despair, but you can't have everything all at once.

Frustration and bewilderment were what remained when he turned to me once again and said, "How did you do it?"

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"Why must you look for the worst?"

"Because I've read your file. You got to the instructor some way, didn't you?"

"That's most ignoble of you. And I'd be a fool to admit it, wouldn't I?"

He sighed. "I suppose so."

He withdrew a pen, clicked it with unnecessary force and scrawled his name on the "Approved by" line at the bottom of the card.

Returning the card, he observed, "This is the closest you've come, you know. It was just under the wire this time. What are you going to do for an encore?"

"I understand that two new majors will be instituted next year. I suppose I should see the proper departmental adviser if I am interested in changing my area."

"You'll see me," he said, "and I will confer with the person involved."

"Everyone else has a departmental adviser."

"You are a special case requiring special handling. You are to report here again next time."

"All right," I said, filing the card in my hip pocket as I rose. "See you then."

As I headed for the door, he said, "I'll find a way."

I paused on the threshold.

"You," I said pleasantly, "and the Flying Dutchman."

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I closed the door gently behind me.

II.

Incidents and fragments, bits and pieces time. Like—

"You're not joking?"

"I'm afraid not."

"I'd rather it looked like hell for the obvious reasons," she said, wide-eyed, backing toward the door we had just come through.

"Well, whatever happened, it's done. We'll just clean up and—"

She reopened the door, that long, lovely, wild hair dancing as she shook her head vigorously.

"You know, I'm going to think this over a little more," she said, stepping back into the hall.

"Aw, come on, Ginny. It's nothing serious."

"Like I said, I'll think about it."

She began closing the door.

"Should I call you later, then?"

"I don't think so."

"Tomorrow?"

"Tell you what, I'll call you."

Click.

Hell. She might as well have slammed it. End of Phase One in my search for a new roommate. Hal Sidmore, who had shared the apartment with me for some time, had gotten married a couple months back. I missed him, as he had been a boon companion, good chess player and general heller about town, as well as an able explicator of multitudes of matters. I had decided to look for something a bit different in my next roommate, however. I thought I had spotted that indefinable quality in Ginny, late one night while climbing the radio tower behind the Pi Phi house, as she was about her end-of-day business in her third-floor room there. Things had gone swimmingly after that. I had met her at ground level, we had been doing things together for over a month and I had just about succeeded in persuading her to consider a change of residence for the coming semester. Then this.

"Damn!" I decided, kicking at a drawer that had been pulled from the desk, dumped and dropped to the floor. No sense in going after her right now. Clean up. Let her get over things. See her tomorrow.

Somebody had really torn the place apart, had gone through everything. The furniture had even been moved about, and the covers pulled off the cushions. I sighed as I regarded it. Worse than the aftermath of the wildest of parties. What a rotten time for breaking and entering and breaking. It wasn't the best of neighborhoods, but it was hardly the worst. This sort of thing had never happened to me before. Now, when it did, it had to happen at precisely the wrong time, frightening away my warm and lissome companion. On top of this, something of course had to be missing.

I kept some cash and a few semi-valuables in the top drawer of

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the bureau in my bedroom. I kept more cash tucked in the toe of an old boot on a rack in the corner. I hoped that the vandal had been satisfied with the top drawer. That was the uninspired idea behind the arrangement.

I went to see.

My bedroom was in better order than the living room, though it too had suffered some depredation. The bed clothing had been pulled off and the mattress was askew. Two of the bureau drawers were open, but undumped. I crossed the room, opened the top drawer and looked inside.

Everything was still in place, even the money. I moved to the rack, checked my boot. The roll of bills was still where I had left it.

"There's a good fellow. Now toss it here," came a familiar voice which I could not quite place in that context.

Turning, I saw that Paul Byler, Assistant Professor of Geology, had just emerged from my closet. His hands were empty, not that he needed a weapon to back up any threat. While short, he was powerfully built, and I had always been impressed by the quantity of scar-tissue on those knuckles. An Australian, he had started out as a mining engineer in some pretty raw places, only later picking up his graduate work in geology and physics and getting into teaching.

But I had always been on excellent terms with the man, even after I had departed from my geology major. I had known him socially for several years. Hadn't seen him for the past couple weeks though, as he had taken some leave. I had thought he was out of town.

So, "Paul, what's the matter?" I said. "Don't tell me you did all this messing?"

"The boot, Fred. Just pass me the boot."

"If you're short on cash, I'll be glad to lend you—"

"The boot!"

I took it to him. I stood there and watched as he plunged his hand inside, felt about, withdrew my roll of bills. He snorted then and thrust the boot and the money back at me, hard. I dropped both, because he had caught me in the abdomen.

Before I even completed a brief curse, he had seized me by the shoulders, spun me about and shoved me into the armchair beside the open window where the curtains fluttered lightly in the breeze.

"I don't want your money, Fred," he said, glaring down at me. "I just want something you have that belongs to me. Now you had better give me an honest answer: Do you know what I'm talking about or don't you?"

"I haven't the foggiest," I said. "I don't have anything of yours. You could have just called me and asked me that. You didn't have to come busting in here and—"

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He slapped me. Not especially hard. Just enough to jolt me and leave me silent.

"Fred," he said, "shut up. Just shut up and listen. Answer when I ask you a question. That's all. Keep the comments for another day. I'm in a hurry. Now I know you are lying because I've already seen your ex-roommate Hal. He says you have it, because he left it here when he moved out. What I am referring to is one of my models of the star-stone, which he picked up after a poker party in my lab. Remember?"

"Yes," I said. "If you had just called me and ask—"

He slapped me again.

"Where is it?"

I shook my head, partly to clear it and partly in negation.

"I—I don't know," I said.

He raised his hand.

"Wait! I'll explain! He had that thing you gave him out on the desk, in the front room, was using it for a paperweight. I'm sure he took it with him—along with all his other stuff—when he moved out. I haven't seen it for a couple months. I'm sure of that."

"Well, one of you is lying," he said, "and you're the one I've got."

He swung again, but this time I was ready for him. I ducked and kicked him in the groin.

It was spectacular. Almost worth staying to watch, as I had never kicked anyone in the groin before. The cold, rational thing to do next would be to go for the back of his neck while he was doubled over that way, preferably spiking him with my elbow. However, I was not in a cold, rational mood just then. To be honest about it, I was afraid of the man, scared to get too close to him. Having had small experience with groin-kicked persons, I had no idea how long it might be before he straightened up and came at me.

Which is why I took to my own element, rather than stay there and face him.

I was over the arm of the chair, had the window the rest of the way up and was out it in an instant. There was a narrow ledge along which I moved until I had hold of the drainpipe, off about eight feet to the right.

I could continue on around it, go up or go down. But I decided to remain where I was. I felt secure.

Not too much later, his head emerged from the window, turned my way. He studied the ledge and cursed me. I lit a cigarette and smiled.

"What are you waiting for?" I said, when he paused for breath. "Come on out. You may be a lot tougher than I am, Paul, but if you come out here only one of us is going back in again. That's concrete down there. Come on. Talk is cheap. Show me."

He took a deep breath and his grip tightened on the sill. For a moment, I actually thought he was

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going to try it. He looked downward though, and he looked back at me.

"All right, Fred," he said, getting control of his lecture voice. "I'm not that big a fool. You win. But listen, please. What I've said is true. I've got to have that thing back. I would not have acted as I did if it were not very important. Please tell me, if you will, whether you were telling me the truth."

I was still smarting from those slaps. I did not feel like being a nice guy. On the other hand, it must have meant a lot to him to make him behave as he had and I had nothing to gain by not telling him. So, "It was the truth," I said.

"And you have no idea where it might be?"

"None."

"Could someone have picked it up?"

"Easily."

"Who?"

"Anybody. You know those parties we had. Thirty, forty people in there."

He nodded and gnashed his teeth.

"All right," he said then. "I believe you. Try and think, though. Can you recall anything—anything at all—that might give me a lead?"

I shook my head.

"Sorry."

He sighed. He sagged. He looked away.

"OK," he said finally. "I'm going now. I suppose you plan on calling the police?"

"Yes."

"Well, I'm in no position to ask favors, or to threaten you, at the moment. But this is both—a request, and a warning of whatever future reprisal I might be able to manage. Don't call them. I've troubles enough without having to worry about them, too."

He turned away.

"Wait," I said.

"What?"

"Maybe if you tell me what the problem is . . ."

"No. You can't help me."

"Well, supposing the thing turned up? What should I do with it?"

"If that should happen, put it in

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a safe place and keep your mouth shut about having it. I'll call you periodically. Tell me about it then."

"What's so important about it?"

"Un-uh," he said, and he was gone.

A whispered question from behind me—"Do you see me, red?"—and I turned but there was no one there, though my ears still rang from the boxing they had taken. I decided then that it was a bad day and I took to the roof for some thinking. A traffic-copter buzzed me later, and I was queried as to suicidal intentions. I told the cop I was refribbing shingles though, and that seemed to satisfy him.

Incidents and fragments continued—

"I *did* try phoning you. Three times," he said. "No answer."

"Did you consider stopping by in person?"

"I was about to. Just now. You got here first."

"Did you call the police?"

"No. I've got a wife to worry about as well as myself."

"I see."

"Did you call them?"

"No."

"Why not?"

"I'm not certain. Well, I guess it's that I'd like a better idea as to what's going on before I blow the whistle on him."

Hal nodded, a dark-eyed study in bruise and bandaid.

". . . And you think I know something you don't?"

"That's right."

"Well, I don't," he said, taking a sip, wincing and stirring more sugar into his iced tea. "When I answered the door earlier, there he was. I let him in and he started asking me about that damned stone. I told him everything I could remember, but he still wasn't satisfied. That was when he began pushing me around."

"Then what happened?"

"I remembered some more things."

"Uh-huh. Like you remembered I have it—which I don't—so he'd come rough me up and leave you alone."

"No! That's not it at all!" he said. "I told him the truth. I left it there when I moved out. As to what became of it afterwards, I have no idea."

"Where'd you leave it?"

"Last I remember seeing it, it was on the desk."

"Why didn't you take it with you?"

"I don't know. I was tired of looking at it, I guess."

He got up and paced his living room, paused and looked out the window. Mary was off attending a class, a thing she had also been doing that afternoon when Paul had stopped by, had his conference with Hal and started the ball rolling down the alley that led to me.

"Hal," I said, "are you telling me

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the whole truth and nothing but?"

"Everything important."

"Come on."

He turned his back to the window, looked at me, looked away.

"Well," he said, "he claimed the thing we had was his."

I ignored the *we*.

"It was," I said, "once. But I was there when he gave it to you. Title passed."

But Hal shook his head.

"Not that simple," he said.

"Oh?"

He returned to sit with his iced tea. He drummed his fingers on the tabletop, took a quick sip, looked at me again.

"No," he said. "You see, the one we had was really his. Remember that night we got it? We played cards in his lab till pretty late. The six stones were on a shelf above the counter. We noticed them early and asked him about them several times. He would just smile and say something mysterious or change the subject. Then, as the night wore on and after he'd had more to drink, he began talking about them, told us what they were."

"I remember," I said. "He told us he had been to see the starstone, which had just that week been received from the aliens and put on display in New York. He had taken hundreds of photographs through all sorts of filters, filled a notebook with observations, collected all the data he could. Then he had set out to construct a model of the thing. Said he was going to find a way to produce them cheaply, to sell them as novelty items. The half-dozen on his shelf represented his best efforts at that point. He thought they were pretty good."

"Right. Then I noticed that there were several rejects in the waste bin beside the counter. I picked out the best-looking one and held it up to the light. It was a pretty thing, just like the others. Paul smiled when he saw that I had it, and he said, 'You like it?' I told him that I did. 'Keep it,' he said."

"So you did. That's the way I remember it, too."

"Yes, but there was more to it than that," he said. "I took it back to the table with me and set it down next to my money—so that each time I reached over for some change, I automatically glanced at it. After a time, I became aware of a tiny flaw, a little imperfection at the base of one of the limbs. It was quite insignificant, but it irritated me more and more each time that I looked at it. So, when you two left the room later, to bring in more cold beer and sodas, I took it over and switched it with one of those on the shelf."

"I begin to see."

"OK, OK! I probably shouldn't have done it. I didn't see any harm in it at the time. They were just prototype souvenirs he was fooling with, and the difference wasn't noticeable unless you looked hard."

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"He'd noticed it the first time around."

"Which was good reason for him to consider them perfect and not be looking again. And what difference did it make, really? Even in the absence of a six-pack the answer seems obvious."

"It sounds all right, I'll give you that. But the fact is that he *did* check—and it also seems that they were more important than he had indicated. I wonder why?"

"I've been doing a lot of thinking," he said. "The first thing that occurred to me was that the souvenir business was just a story he made up because he wanted to show them off to us and he had to tell us something. Supposing he had been approached by someone from the UN to produce a model—several models—for them? The original is priceless, irreplaceable and on display to the public. To guard against theft or someone with a compulsion and a sledgehammer, it would seem wisest to keep it locked away and put a phony one in the showcase. Paul would be a logical choice for the job. Whenever anyone talks crystallography, his name comes up."

"I could buy parts of that," I said, "but the whole thing doesn't hang together. Why get so upset over the flawed specimen when he could just manufacture another? Why not simply write off the one we've lost?"

"Security?"

"If that's so, we didn't break it. He did. Why shove us around and bring it to mind when we were doing a good job forgetting about it? No, that doesn't seem to jibe."

"All right, what then?"

I shrugged.

"Insufficient data," I said, getting to my feet. "If you decide to call the police, be sure to tell them that the thing he was looking for was something you'd stolen from him."

"Aw, Fred, that's hitting below the belt."

"It's true, though. I wonder what the intrinsic value of the thing was? I forget where they draw the misdemeanor-felony line."

"OK, you've made your point. What are you going to do?"

I shrugged.

"Nothing, I guess. Wait and see what happens, I suppose. Let me know if you think of anything else?"

"All right. You do the same?"

"Yes."

I started toward the door.

"Sure you won't stay for dinner?" he said.

"No, thanks. I've got to run."

"See you, then."

"Right. Take it easy."

Walking past a darkened bakery. Play of night and light on glass. DO YOU TASTE ME BRED? I read. I hesitated, turned, saw where shadows had anagrammatized a bake sale, sniffed, hurried on.

Bits and pieces—

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Near midnight, as I was trying a new route up the cathedral, I thought that I counted an extra gargoyle. As I moved closer though, I saw that it was Professor Dobson atop the buttress. Drunk again and counting stars, I guessed.

I continued on, coming to rest on a nearby ledge.

"Good evening, Professor."

"Hello, Fred. Yes, it is, isn't it? Beautiful night. I was hoping you'd pass this way. Have a drink."

"Low tolerance," I said. "I seldom indulge."

"Special occasion," he suggested.

"Well, a little then."

I accepted the bottle he extended, took a sip.

"Good. Very good," I said, passing it back. "What is it? And what's the occasion?"

"A very, very special cognac I've been saving for over twenty years, for tonight. The stars have finally run their fiery routes to the proper places, positioned with elegant cunning, possessed of noble portent."

"What do you mean?"

"I'm retiring, getting out of this lousy rat race."

"Oh, congratulations. I hadn't heard."

"That was by design. Mine. I can't stand formal good-byes. Just a few more loose ends to splice, and I'll be ready to go. Next week probably."

"Well, I hope you have an enjoyable time of it. It is not often that I meet someone with the interest we share. I'll miss you."

He took a sip from his bottle, nodded, grew silent. I lit a cigarette, looked out across the sleeping town, up at the stars. The night was cool, the breeze more than a little damp. Small traffic sounds came and went, distant, insect-like. An occasional bat interrupted my tracing of constellations.

"Alkaid, Mizar, Alioth," I murmured, "Megrez, Phecda . . ."

". . . Merak and Dubhe," he said, finishing off the Big Dipper and surprising me, both for having overheard and for knowing the rest.

". . . Back where I left them so many years ago," he went on. "I've a very peculiar feeling now—the thing I set out to analyze tonight. Did you ever look back at some moment in your past and have it suddenly grow so vivid that all the intervening years seemed brief, dreamlike, impersonal—the motions of a May afternoon surrendered to routine?"

"No," I said.

"One day, when you do, remember—the cognac," he said, and he took another sip and passed me the bottle.

I had some more and returned it to him.

"They did actually creep though, those thousands of days. Petty pace, and all that," he continued. "I know this intellectually, though something else is presently denying it. I am aware of it particularly, be-

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cause I am especially conscious of the difference between that earlier time and this present. It was a cumulative thing, the change. Space travel, cities under the sea, the advances in medicine—even our first contact with the aliens—all of these things occurred at different times and everything else seemed unchanged when they did. Petty pace. Life pretty much the same, but for this one new thing. Then another, at another time. Then another. No massive revolution. An incremental process is what it was. Then suddenly a man is ready to retire, and this gives rise to reflection. He looks back, back to Cambridge, where a young man is climbing a building. He sees those stars. He feels the texture of that roof. Everything that follows is a blur, a kaleidoscopic monochrome. He is here and he is there. Everything else is unreal. But they are two different worlds, Fred—two completely different worlds—and he didn't really see it happen, never actually caught either one in the act of going or coming. And that is the feeling that accompanies me tonight."

"Is it a good feeling or a bad one?" I said.

"I don't really know. I haven't worked up an emotion to go with it yet."

"Let me know when you do, will you? You've got me curious."

He chuckled. I did, too.

"You know, it's funny," I said, "that you never stopped climbing."

He was silent for a while, then said, "About the climbing, it's rather peculiar . . . Of course, it was somewhat in the nature of a tradition where I was a student, though I believe I liked it more than most. I kept at it for several years after I left the university, and then it became a more or less sporadic thing with changes of residence and lack of opportunity. I would get spells, though—compulsions, actually—when I just had to climb. I would take a holiday then, to someplace where the architecture was congenial. I'd spend my nights scaling the buildings, clambering about rooftops and spires."

"Acrophilia," I said.

"True. Baptizing a thing doesn't explain it, though. I never understood why I did it. Still don't, for that matter. I did finally stop it for a long while, though. Middle-age hormone shift perhaps. Who knows? Then I came here to teach. It was when I heard of your own activities that I began thinking about it again. This led to the desire, the act, the return of the compulsion. It has been with me ever since. I've spent more time wondering why people quit climbing things than why they start."

"It does seem the natural thing to do."

"Exactly."

He took another drink, offered me one. I would have liked to but I know my limits, and sitting there on the ledge I was not about to

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push them. So he gestured with the bottle, skywards, then, "To the lady with the smile," he said, and drank it for me.

"To the rocks of empire," he added, a moment later, with a swing and a swig to another starry sector. The wrong one, but no matter. He knew as well as I that it was still below the horizon.

He settled back, found a cigar, lit it, mused:

"How many eyes per head, I wonder, in the place they regard the Mona Lisa? Are they faceted? Fixed? And of what color?"

"Only two. You know that. And sort of hazel—in the pictures, anyway."

"Must you deflate romantic rhetoric? Besides, the Astabigans have plenty of visitors from other worlds who will be viewing her."

"True. And for that matter, the British Crown Jewels are in the custody of people with crescent-shaped pupils. Kind of lavender-eyed, I believe."

"Sufficient," he said. "Redeeming. Thank you."

A shooting star burned its way earthward. My cigarette butt followed it.

"I wonder if it was a fair trade?" he said. "We don't understand the Rhennius machine and even the aliens aren't certain what the star-stone represents."

"It wasn't exactly a trade . . ."

"Two of the treasures of Earth are gone and we have a couple of theirs in return. What else would you call it?"

"A link in a *kula* chain," I said.

"I am not familiar with the term. Tell me about it."

"The parallel struck me as I read the details of the deal we had been offered. The *kula* is a kind of ceremonial voyage undertaken at various times by the inhabitants of the island groups to the east of New Guinea—the Trobriand Islanders, the Papuans of Melanesia. It is a sort of double-circuit, a movement in two opposite directions among the islands. The purpose is the mutual exchange of articles having no special functional value to the various tribes involved, but possessed of great cultural significance. Generally, they are body ornaments—necklaces, bracelets—bearing names and colorful histories. They move slowly about the great circuit of the islands, accompanied by their ever-growing histories, are exchanged with considerable pomp and ceremony and serve to focus cultural enthusiasm in a way that promotes a certain unity, a sense of mutual obligation and trust. Now, the general similarity to the exchange program we are entering with the aliens seems pretty obvious. The objects become both cultural hostages and emblems of honor to the trustees. By their existence, their circulation, their display, they inevitably create something of a community-feeling. This is the true purpose of a *kula* chain, as I see it.

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That's why I didn't like the word 'trade'."

"Most interesting. None of the reports I've heard or read put it in that light—and certainly none of them compared it to the *kula* phenomenon. They cast it more in terms of an initiation fee for joining the galactic club, the price of admission to enjoy the benefits of trade and the exchange of ideas. That sort of thing."

"That was just the sales pitch, to ease public protest over the relinquishment of cultural treasures. All we were really promised was reciprocity in the chain. I'm sure those other things will eventually come to pass, but not necessarily as a direct result. No. Our governments were indulging in the time-honored practice of giving the people a simple, palatable explanation of a complex thing."

"I can see that," he said, and he stretched and yawned. "In fact, I prefer your interpretation over the official one."

I lit another cigarette.

"Thanks," I said. "I feel obligated to point out, though, that I have always been a sucker for ideas I find esthetically pleasing. The cosmic sweep of the thing—an interstellar *kula* chain—affirming the differences and at the same time emphasizing the similarities of all the intelligent races in the galaxy—tying them together, building common traditions . . . The notion strikes me as kind of fine."

"Obviously," he said, gesturing then toward the higher stages of the cathedral. "Tell me, are you going to climb the rest of the way up tonight?"

"Probably, in a little while. Did you want to go now?"

"No, no. I was just curious. You generally go all the way to the top, don't you?"

"Yes. Don't you?"

"Not always. In fact, I've recently been keeping more to the middle heights. The reason I asked though, is that I have a question, seeing that you are in a philosophical mood."

"It's catching."

"All right. Then tell me what it feels like when you reach the top."

"An elation, I guess. A sense of accomplishment, sort of."

"Up here the view is less obstructed. You can see farther, take in more of the features of the landscape. Is that it, I wonder? A better perspective?"

"Part of it, maybe. But there is always one other thing I feel when I reach the top: I always want to go just a little bit higher, and I always feel that I almost can, that I am just about to."

"Yes. That's true," he said.

"Why do you ask?"

"I don't know. To be reminded, perhaps. That boy in Cambridge would have said the same thing you did, but I had partly forgotten. It is not just the world that has changed."

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He took another drink.

"I wonder," he said, "what it was really like? That first encounter—out there—with the aliens. Hard to believe that several years have passed since it happened. The governments obviously glossed up the story, so we will probably never know exactly what was said or done. A coincidental run-in, neither of us familiar with the system where we met. Exploring, that's all. It was doubtless less of a shock to them, being acquainted with so many other races across the galaxy. Still . . . I remember that unexpected return. Mission accomplished. A half century ahead of schedule. Accompanied by an Astabigan scouting vessel. If an object attains the speed of light it turns into a pumpkin. Everybody knew that. But the aliens had found a way of cheating space out of its pumpkins, and they brought our ship back through the tunnel they made under it. Or across the bridge over it. Or something like that. Lots of business for the math department. Strange feeling. Not at all the way I had thought it might be. Sort of like working your way up a steeple or a dome—really difficult going—and then, when you reach the point where you realize you've got it made, you look up and see that someone else is already there on top. So we'd run into a galactic civilization—a loose confederation of races that's been in existence for millennia. Maybe we were lucky. It could easily have taken a couple more centuries. Maybe not, though. My feelings were, and still are, mixed. How can you go a little bit higher after something that anticlimactic. They've given us the technical know-how to build pumpkin-proof ships of our own. They've also warned us off a lot of celestial real estate. They've granted us a place in their exchange program, where we're bound to make a poor showing. Changes will be coming faster and faster in the years ahead. The world may even begin to change at a noticeable rate. What then? Once that petty pace quality is lost, everyone may wind up as bewildered as a drunken old nightclimber on a cathedral who has been vouchsafed a glimpse of the clicking gear-teeth between himself here and the towers of Cambridge there, wherever. What then? See the mainspring and turn to pumpkins? Retire? Alkaid, Mizar, Alioth, Megrez, Phecda, Merak and Dubhe . . . *They* have been there. *They* know them. Perhaps, deep down inside, I wanted us to be alone in the cosmos—to claim all of that for ourselves. Or any aliens encountered, a little behind us in everything. Greedy, proud, selfish . . . True. Now, though, we're the provincials, God help us! —Enough left to drink to our health. Good! Here's to it! I spit into the face of Time that has transfigured me!"

Offhand, I could think of nothing

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to say, so I said nothing. Part of me wanted to agree with him, but only part. For that matter, part of me sort of wished he had not finished off the brandy.

After a time, he said, "I don't think I'll be doing any more climbing tonight," and I reckoned that a good idea. I had decided against further altitude myself, and wheeling, we narrowed our gyre, down and around and down, and I saw the good man home.

Bits and pieces. Pieces—

I caught the tag-end of the late-late news before turning in. A fog-dispelling item involved a Paul Byler, Assistant Professor of Geology, set upon by vandals in Central Park earlier that evening, who, in addition to whatever money he was carrying, had been deprived by the rascals of heart, liver, kidneys and lungs.

Some upwelling in the dark fishbowl atop the spine later splashed dreams, patterns memory-resistant as a swirl of noctilucae, across consciousness' thin, transparent rim, save for the kinesthetic/synesthetic DO YOU FEEL ME LED? which must have lasted a timeless time longer than the rest, for later, much later, morning's third coffee touched it to a penny's worth of spin, of color.

III.

Sunflash, some splash. Darkle. Stardance.

Phaeton's solid gold Cadillac crashed where there was no ear to hear, lay burning, flickered, went out. Like me.

At least, when I woke again it was night and I was a wreck.

Lying there, bound with rawhide straps, spread-eagle, sand and gravel for pillow as well as mattress, dust in my mouth, nose, ears and eyes, dined upon by vermin, thirsty, bruised, hungry and shaking, I reflected upon the words of my one-time adviser, Dr. Merimee: "You are a living example of the absurdity of things."

Needless to say, his specialty was the novel, French, mid-Twentieth Century. Yet, yet do those lens-distorted eyes touch like spikes the extremities of my condition. Despite his departure from the university long ago under the cloud of a scandal involving a girl, a dwarf and a donkey—or perhaps because of this—Merimee has, over the years, come to occupy something of an oracular position in my private cosmos, and his words often return to me in contexts other than that of the pre-registration interview. The hot sands had shouted them through me all afternoon, then night's frigid breezes had whispered the motto at the overdone lamb chop my ear:

"You are a living example of the absurdity of things."

Open to a variety of interpretations when you stop to think about it, and I had plenty of time

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to, just then. On the one hand, it could put me on the side of the things. On the other, the living. Or, perhaps, on the other, the absurdity.

Oh yes. Hands . . .

I tried flexing my fingers, wasn't sure they obeyed. Could be they weren't really there and I was feeling a faint phantom limb effect. Just in case they still were, I thought about gangrene for a while.

Damn. And again. Frustrating, this.

The semester had opened and I had departed. After making arrangements to mail my advanced baskets to my audible partner Ralph at the crafts shop, I had headed west, tarrying equally in San Francisco, Honolulu, Tokyo. A pair of peaceful weeks had passed. Then a brief stay in Sydney. Just long enough to get into trouble climbing around that fish-swallowing-fish-swallowing-fish Opera House they have out on Bennelong Point overlooking the harbor. I left town with a limp and a reprimand. Flew to Alice Springs. Picked up the air scooter I had ordered. Took off in the early morning before the full heat of day and light of reason made their respective ways into the world. The countryside struck me as a good place to send trainee saints to get what was coming to them. It took several hours to locate the site and a few more to dig in and set things up. I did not anticipate a long stay.

There are carvings on the cliff walls, quite old, covering around 1600 square feet. The aborigines in the area disclaim any knowledge of their origin or purpose. I had seen photographs, but I had wanted to view the real thing, try some shots of my own, take rubbings and do a little digging around.

I got into the shade of my shelter, sipped sodas and tried to think cool thoughts as I regarded the work on the rock. While I seldom indulge in graffiti, verbal or pre-, I have always felt something of empathy for those who scale walls and make their marks upon them. The farther back you go, the more interesting the act becomes. Now it may be true as some have claimed, that the impulse was first felt in the troglodytic equivalent of the john, and that cave drawings got started this way, as a kind of pictorial sublimation of an even more primitive evolutionary means of marking one's territory. Nevertheless, when somebody started climbing around on walls and mountainsides to do it, it seems pretty obvious that it had grown from a pastime into an art form. I have often thought of that first guy with a mastodon in his head, staring at a cliff face or cave wall, and I have wondered what it was that set him suddenly to climbing and scraping away—what it felt like. Also, what the public's reaction was. Perhaps they

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made sufficient holes in him to insure the egress of the spirits behind it all. Or perhaps the bold initiative involved was present in greater abundance then, awaiting only the proper stimulus, and a bizarre response was considered as common as the wriggling of one's ears. Impossible to say. Difficult not to care.

Whatever, I took photographs that afternoon, dug holes that evening and the following morning. Spent most of the second day taking rubbings and more photos. Continued my base trench at days-end, coming across what seemed the pieces of a blunted stone chisel. Nothing quite that interesting turned up the next morning, though I kept at the digging long past the hour I had marked for quitting.

I retired to the shade then, to nurse blisters and restore my balance of liquids while I wrote up the day's doings to that point along with some fresh thoughts that had occurred to me concerning the entire enterprise. I broke for lunch around one o'clock and doodled in my notebook again for a time afterwards.

It was a little after three when a skycar passed overhead, then turned back, descending. This troubled me a bit, as I had absolutely no official authorization for what I was doing. On some piece of paper, card, tape, or all of these, somewhere, I was listed as "tourist." I had no idea whether a permit was required for what I was about, though I strongly suspected this. Time means a lot to me, paperwork wastes it, and I have always been a firm believer in my right to do anything I cannot be stopped from doing. Which sometimes entails not getting caught at it. This is not quite so bad as it sounds, as I am a decent, civilized, likable guy. So, shading my eyes against the blue and fiery afternoon, I began searching for ways to convince the authorities of this. Lying, I decided, was probably best.

It came to earth and two men alit. Their appearance was not what I would ordinarily consider official, but allowance for custom and circumstance is always in order and I rose to meet them. The first man was around my height—that is, a little under six feet—but heavily built and beginning work on a paunch. His hair and eyes were light, he had a mild sunburn and was slick with sweat. His companion was a couple inches taller, a couple shades darker and brushed an unruly strand of dark brown hair back from his forehead as he advanced. He was lean and fit-looking. Both wore city shoes rather than boots, and their lack of head protection in that heat struck me as peculiar.

"You Fred Cassidy?" said the first man, coming to within a few paces of me and turning away to regard the wall and my trench.

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"Yes," I said, "I am."

He produced a surprisingly delicate handkerchief and patted his face with it.

"Find what you were looking for?" he asked.

"Wasn't looking for anything special," I said.

He chuckled.

"Seems as if you did an awful lot of work, looking for nothing."

"That's just an exploratory trench," I said.

"Why are you exploring?"

"How about telling me who you are and why you want to know?" I said.

He ignored my question and went over to the trench. He paced along its length, stooping a couple times and peering down into it. While he was doing this, the other man walked over to my shelter. I called out as he reached for my knapsack, but he opened it and dumped it anyway.

He was into my shaving kit by the time I got to him. I took hold of his arm, but he jerked it away. When I tried again, he pushed me back and I stumbled. Before I hit the ground, I had decided that they were not cops.

Rather than getting up for the next performance, I kicked out from where I lay and raked him across the shins with the heel of my boot. It was not quite as spectacular as the time I had kicked Paul Byler in the groin, but was more than sufficient for my purposes. I scrambled to my feet then and caught him on the chin with a hard left. He collapsed and did not move. Not bad for one punch. If I could do it without a rock in my hand I'd be a holy terror.

My triumph lasted all of a pair of seconds. Then a sack of cannonballs was dropped on my back, or so it seemed. I was clipped from behind and borne to the ground in a very unsportsmanlike fashion. The heavyset one was much faster than his appearance had led me to believe, and as he twisted my arm up behind my back and caught hold of my hair I began to realize that little, if any, of his bulk was of the non-functional, fatty variety. Even that central bulge was a curbstone.

"All right, Fred. I guess it's time to have our talk," he said.

Stardance . . .

Lying there, with my abrasions, contusions, aches and confusions, I decided that Professor Merimee had come very near that still, cold center of things where definition lurks. Absurd indeed was the manner in which a dead hand was extended to give me the finger.

Lying there, cursing subvocally as I retraced my route to the moment, I became peripherally aware of a small, dark, furry form moving along my southern boundary, pausing, staring, moving again. Doubtless something carnivorous, I decided. I fought with a shudder,

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transformed it into a shrug. There was no point in calling out. None whatsoever. But there could be a small measure of triumph to going out this way . . .

So I tried to cultivate stoicism while straining after a better view of the beast. It touched my right leg and I jerked convulsively, but there was no pain. After a time, it moved over to my left. Had it just eaten my numbed foot, I wondered? Had it enjoyed it?

Moments later, it turned again, advancing upward along my left side, and I finally got a better look at it. I saw a stupid-looking little marsupial that I recognized as a wombat, harmless-seeming and apparently curious, hardly lusting after my extremities. I sighed and felt some of the tension go out of me. It was welcome to sniff around all it cared to. When you are going to die, a wombat is better than no company at all.

I thought back to the weight and the twisting of my arm, as the heavy man, ignoring his fallen companion, had sat upon me and said, "All that I really want of you is the stone. Where is it?"

"Stone?" I had said, making the mistake of adding the question mark.

The pressure on my arm increased.

"Byler's stone," he said. "You know the one I mean."

"Yes, I do!" I agreed. "Let up, will you? It's no secret what happened. I'll tell you all about it."

"Go ahead," he said, easing up a fraction.

So I told him about the facsimile and how we had come by it. I told him everything I knew about the damned thing.

As I feared, he did not believe a word I said. Worse yet, his partner recovered while I was talking. He was also of the opinion that I was lying, and he voted to continue the questioning.

This was done, and at one point many red and electric minutes later, as they paused to massage their knuckles and catch their breath, the tall one said to the heavy one, "Sounds pretty much like what he told Byler."

"Like what Byler *said* he told him," the other corrected.

"If you talked to Paul," I said, "what more can I tell you? He seemed to know what was going on—which I don't—and I told him everything I knew about the stone: exactly what I've just told you."

"Oh, we talked to him, all right," the tall man said, "and he talked to us. You might say he spilled his guts—"

"But I wasn't sure of him then," the fat man said, "and I'm less sure of him now. What do you do the minute he kicks off? You head for his old stamping grounds and start digging holes. I think the two of you were in this together somehow and that you had matching stories worked out in advance. I think the

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stone is around here someplace, and I think you have a pretty good idea how to put your hands on it. So you will tell us. You can do it the easy way or the hard way. Make your choice."

"I've already told you—"

"You've made your choice," he said.

The period that followed proved something less than satisfactory for all parties concerned. They obtained nothing that they wanted, and so did I. My greatest fear at the time was mutilation. From a pummeling, I can recover. If someone is willing to lop off fingers or poke out an eye though, it puts talking or not talking a lot closer to a life-death situation. But once you start that business, it is a kind of irreversible thing. The interrogator has to keep going himself one better for so long as there is resistance, and eventually there is a point where death becomes preferable to life for the subject. Once that point is achieved, it becomes something of a race between the two of them, with information as one goal and death the other. Of course, uncertainty as to whether the interrogator may go this far can be just about as effective as knowing that he will. In this case, I was pretty certain they were capable of it, because of Byler. But the heavy man was unhappy with Paul's story, I could see that. If I were to reach that same turning point and then win the race, he would be even less happy. Since he was unwilling to believe that I really did not have the information he was after, he must have assumed that I had fortitude to spare. I guess this determined his decision to proceed carefully, while in no way reducing the harsher eventuality.

All of which I offer as preamble to his comment, "Let's put him in the sun and watch him turn into a raisin," followed by several moments of silken brow-blotting as he awaited my response. Disappointed by it, they staked me out where I could wrinkle, darken and concentrate my sugars, while they returned to their vehicle for an ice chest. They took up a position in the shade of my shelter, periodically strolling over to stage a beer commercial on my behalf.

Thus the afternoon. Later, they decided that a night's worth of wind, sand and stars were also necessary for my raisinhood. So they fetched sleeping bags and the makings of a meal from their vehicle and proceeded to encamp. If they thought the cooking odors would make me hungry, they were wrong. They just made me sick to my stomach.

I watched the day drive west. The man in the moon was standing on his head.

How long I had been unconscious, I did not know. There were no sounds of movement from the camp and I could see no light in

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that direction. The wombat had crawled off to my right and settled there, making soft, rhythmic noises. He rested partly against my arm and I could feel his movements, his breathing.

I still did not know my tormentors' names, nor had I obtained a single new fact concerning the object of their inquiries, the starstone. Not that it should actually have mattered, save in an academic sense. Not at that point. I was certain that I was going to die before very long. The night had delivered a jaw-jittering chill, and if it didn't finish me I figured my inquisitors would.

My recollection from a physiological psychology course was that it is not the absolute state of a sense organ that we perceive, but rather its rate of change. Thus, if I could keep quite still, could emulate the Japanese in a steaming bath, the cold-sensations should drop. But this was a matter of comfort, rather than one of survival. While relief was my immediate objective, I spotted the notion of continued existence lurking at the back of my thoughts. I did not take a stick to it, however, because its methods seemed useful—which of course seems another way of saying that I am weak and irresolute. I won't argue.

There is a rhythmic breathing technique which always made me feel warmer when I practiced it in my yoga class. I commenced the exercise, but my breath escaped me in a rattling wheeze. I choked and began to cough.

The wombat turned and sprang onto my chest. I began to scream, but he stuffed his paw into my mouth, gagging me. With my left hand I reached for the scruff of his neck and had hold of it before I recalled that my left hand was supposedly bound.

He clamped down with his other three limbs, thrust his face up close to mine and whispered hoarsely, "You are complicating matters dangerously, Mr. Cassidy. Release my neck immediately and keep still afterwards."

Obviously, then, I was delirious. Comfort within the framework of my delirium seemed a desirable end, however, so I let go his neck and attempted to nod. He withdrew his paw.

"Very good," he said. "Your feet are already free. I just have to finish undoing your right hand and we will be ready to go."

"Go?" I said.

"Shsh!" he said, moving off to the right once more.

So I shshed while he worked on the strap. It was the most interesting hallucination I had had in a long while. I sought among my various neuroses after the reason for its taking this form. Nothing suggested itself immediately. But then neuroses are tricky little devils, according to Dr. Marko, and one must give them their due when

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it comes to subtlety and sneakiness.

"There!" he whispered, moments later. "You are free. Follow me!"

He began to move away.

"Wait!"

He paused, turned back.

"What is the matter?" he asked.

"I can't move yet. Give my circulation a chance, will you? My hands and feet are numb."

He snorted and returned.

"Then movement is the best therapy," he said, seizing my arm and drawing me forward into a sitting position.

He was amazingly strong for a hallucination, and he continued dragging on my arm until I fell forward onto all fours. I was shaky, but I held the pose.

"Good," he said, patting my shoulder. "Come on."

"Wait! I'm dying of thirst . . ."

"Sorry. I am traveling light. If you will follow me, however, I can promise you a drink."

"When?"

"Never," he snarled, "if you just sit there. In fact, I think I hear some noises back at the camp now. Come on!"

I began crawling toward him. He said, "Keep low," which was rather unnecessary, as I was unable to get to my feet. He moved away from the camp then, heading in a generally easterly direction, roughly parallel to the ridge beside which I had been working. My progress was slow, and he paused periodically to allow me to catch up.

I followed for several minutes, and then a throbbing began in my extremities, accompanied by flashes of feeling. This collapsed me, and I croaked some obscenity as I fell. He bounded toward me, but I bit off my outburst before he could repeat the paw-in-mouth trick.

"You are a very difficult creature to rescue," he stated. "Along with your circulatory system, your judgment and self-control seem to be of a primitive order."

I found another obscenity, but I whispered this one.

". . . Which you continue to demonstrate," he added. "You need do only two things—follow, and keep silent. You are not very good at either. It causes one to wonder—"

"Get moving!" I said. "I'll follow!"

". . . And your emotions—"

I lunged at him, but he darted back and away.

I followed, ignoring everything but the desire to throttle the little beast. It did not matter that the situation was patently absurd. I had both Merimee and Marko to draw upon for theory, an opposing pair of fun-house mirrors with me in the middle, hot on the trail of the wombat. I followed, muttering, burning adrenaline, spitting out the dust he raised. I lost track of time.

The ridge grew lower, broke up. We moved inward, upward, then downward, passing through rocky corridors into a deeper darkness,

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moving over a way that was now all stone and gravel. I slipped once, and he was beside me instantly.

"Are you all right?" he asked.

I started to laugh, controlled it.

"Sure, I'm fine."

He was careful to stay out of reach.

"It is just a little farther," he said. "Then you can rest. I will fetch you nourishment."

"I am sorry," I said, struggling to rise and failing, "but this is it. If I can wait up ahead, I can wait here. I'm out of gas."

"The way *is* rocky," he said, "and they should not be able to track you. But I would feel better if you could continue just a little farther. There is an alcove off to the side, you see. If you were in there, chances are they would pass without seeing you if they should happen to stumble on this trail. What do you say?"

"I say it sounds good, but I don't think I can do it."

"Try again. One more time."

"All right . . ."

I pushed myself up, wobbled, advanced. If I fell again, that was it, I decided. I would have to take my chances. I was feeling light-headed as well as heavy-bodied.

But I persisted. A hundred feet perhaps . . .

He led me into a hidden drive of a cul-de-sac off to the side of the rift we had been traversing. I collapsed there and everything began to swirl and ebb.

I thought I heard him say, "I am going now. Wait here."

"Sure thing," I seemed to reply.

Another blackness. Absolute. A parched, brittle thing/place of indeterminate size/duration. I was in it, and vice-versa—equally distributed and totally contained by/in the nightmare system with consciousness at C^{-n} and chillthirstheatchillthirstheat a repeating decimal running every/anywhere on the projective plane that surrounded . . .

Flashes and imaginings . . . "Do you hear me, Fred? Do you hear me, Fred?" Water, trickling down my throat. Another blackness. Flash. Water, on my face, in my mouth. Movement. Shadows. A moaning . . .

Moaning. Shadows, a lesser black. Flash. Flashes. A light through parted lashes, dim. The ground below, passing. The moaning, mine.

"Do you hear me, Fred . . . ?"

"Yes," I said, "yes . . ."

The movement ceased. I overheard an exchange in a language I did not recognize. Then the ground rose. I was deposited upon it.

"Are you awake? Can you hear me?"

"Yes, yes. I already said 'yes'. How many times—"

"Yes, he appears to be awake"—this superfluous comment in a voice I recognized as that of my friend the wombat.

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There had been more than one voice, but I could not see the speakers because of the angle at which I lay. And it was too much trouble to turn my head. I opened my eyes fully though, and saw that the terrain was flat and pinked, though not tenderized, by the first low flames of morning.

All of the previous day's happenings slowly emerged from that place where memories stay when you are not using them. These, along with the moral I had drawn from them, were as responsible as muscle tone for my unwillingness to turn and regard my companions. And it wasn't bad just lying there. If I waited long enough, I might go away again and come back someplace else . . .

"I say," came a strange voice, "would you care for a peanut butter sandwich?"

Pieces of broken reverie fell all about me. Gagging, I gained a new perspective on the ground and the long shadows that lay across it.

Because of the peculiar outline I had regarded, I was not completely surprised when I raised my head and saw a six-foot-plus kangaroo standing beside the wombat. It considered me through a pair of dark glasses as it removed a sandwich bag from its pouch.

"Peanut butter is rich in protein," it said.

IV.

Hanging there, some twenty or thirty thousand miles above it, I was in a perfect position to enjoy the event if California were to break loose, slip away and vanish beneath the Pacific. Unfortunately, this did not occur. Instead, the whole world slipped away as the vessel continued its orbiting and the argument proceeded behind my back.

However, at the rate things were going it seemed possible that the San Andreas fault would have several more opportunities to present me with the desired spectacle while providing some Donnelly of the distant future with material for a book on the peculiarities of that antediluvian world and its masterfully scripted passage. When one has nothing better to do one can always hope.

As, through that port beside which I reclined, presumably resting, only half-listening to the heated sounds exchanged between Charv and Ragma, I regarded the Earth and then the star-dotted field beyond it, immense in the distance of distances, I was taken by a glorious sensation doubtless compiled of recovery from my earlier discomforts, a near-metaphysical satisfaction of my acrophiliac tendencies and a general overlay of fatigue that spread slowly, lightly across me, like a delicious fall of big-flaked snow. I had never been at this altitude before, witnessing the distances, struggling to gain perspective, overwhelmed by the

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consideration of space, space and more space. The beauty of basic things, things as they are and things as they might be, reached out to me then and I recalled some lines I had scribbled long ago, on regretfully giving up my math major rather than take a degree in it:

Lobachevsky alone has looked
on Beauty bare.
She curves in here, she curves in
here. She curves out there.
Her parallel clefts come together
to tease
In un-callipygianous-wise;
With fewer than one hundred-
eighty degrees
Her glorious triangle lies.
Her double-trumpet symmetry
Riemann did not court—
His tastes to simpler-curvedness,
the buxom Teuton sort!
An ellipse is fine for as far as it
goes,
But modesty, away!
If I'm going to see Beauty with-
out her clothes
Give me hyperbolas any old day.

The world is curves, I've heard it
said,
And straightway in it nothing
lies.
This then my wish, before I'm
dead:
To look through Lobachevsky's
eyes.

I felt very drowsy. I had been into and out of consciousness periodically, and had no idea as to how much time had elapsed. My watch, of course, was of no assistance. I resisted going away again, however, both to prolong the esthetic seizure and to keep abreast of developments about me.

I was uncertain as to whether my rescuers were aware of my wakefulness, in that I was facing away from them, reclined and loosely restrained in a hammock-like affair of soft webbing. And even if they were aware, the fact that they were conversing in a non-terrestrial language doubtless provided them with a feeling of insulation. At some earlier time, I had slowly realized that the thing that would most have surprised them probably surprised me even more. This was the discovery that, when I gave it a piece of my divided attention, I could understand what they were saying.

A difficult phenomenon to describe better, but I'll try: If I listened intently to their words, they swam away from me, as elusive as individual fish in a school of thousands. If I simply regarded the waters, however, I could follow the changing outline, the drift, pick out the splashes and sparklings. Similarly, I could tell what they were saying. Why this should be, I had no idea.

And I had ceased to care after a time, for their dialogue was quite repetitious. It was considerably more rewarding to consider the

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curtate cycloid described by Mount Chimborazo if one were positioned somewhere above the South Pole, to see this portion of the surface as moving backward with respect to the body's orbital progression . . .

My thoughts suddenly troubled me. Where had that last one really come from? It felt beautiful, but was it mine? Had some valve given way in my unconscious, releasing a river of libido that cut big chunks of miscellanea from the banks it rushed between, to deposit them in shiny layers of silt up front here where I normally take my ease? Or could it be a telepathic phenomenon—me in a psychically defenseless position, two aliens the only other minds for thousands and thousands of miles about? Was one of them a logophile?

But it did not *seem* that way. I was certain that my apprehension of the language, for example, was not a telepathic thing. Their speech kept coming into better and better focus—individual words and phrases now, not just abstractions of their sense. I knew that language somehow, the sounds' meanings. I was not simply reading their minds.

What then?

Feeling more than a little sacrilegious, I forced the sense of peace and pleasure transcendent out to arms' length, then shoved as hard as I could. Think, damn it! I ordered my cortex. You are on overtime. Double-time for holidays of the spirit. Move!

Turning and returning, back to the thirst, the chill, the aches, the morning . . . Yes. Australia. There I was . . .

The wombat had convinced the kangaroo, whose name I later learned was Charv, that water would benefit me more at that moment than a peanut butter sandwich. Charv acknowledged the wombat's superior wisdom in matters of human physiology and located a flask in his pouch. The wombat, whose name I then learned to be Ragma, yanked off his paws—or rather, paw-like mittens—displaying tiny, six-digited hands. While this was being done, I gathered that they were alien plain-clothes-men passing as local fauna. The reason was not clear.

"You are very fortunate—" Ragma told me.

After I finished choking: "I begin to appreciate the term 'alien viewpoint'," I said. "I take it you are a member of a race of masochists."

"Some beings thank another who saves their life," he replied. "And I was about to complete the statement, 'You are very fortunate that we happened along this way.' "

"I'll give you the first," I said. "Thanks. But coincidence is like a rubber band. Stretch it too far and it snaps. Forgive me if I suspect some design in our meeting as we did."

"I am distressed that you focus suspicions upon us," he said, "when all that we have done is

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render assistance. Your cynicism index may be even higher than was indicated."

"Indicated by whom?" I asked.

"I am not permitted to say," he replied.

He cut short a snappy rejoinder by pouring more water down my throat. Choking and considering, I modified it to, "This is ridiculous!"

"I agree," he said. "But now that we are here, everything should soon be in order."

I rose, stretched hard, pulled some of the kinks out of my muscles, seated myself on a nearby rock to defeat a small dizziness.

"All right," I said, reaching for a cigarette and finding all of them crushed, "How about your considering whatever you are permitted to say and then saying it?"

Charv withdrew a package of cigarettes—my brand—from his pouch and passed it to me.

"If you must," he said.

I nodded, opened it, lit one.

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"Thank you," I said, returning them.

"Keep the pack," he said. "I am a pipe-smoker, of sorts. You, by the way, are more in need of rest and nourishment than nicotine. I am monitoring your heartbeat, blood pressure and basal metabolism rate on a small device I have with me—"

"Don't let it worry you, though," said Ragma, helping himself to a cigarette and producing a light from somewhere. "Charv is a hypochondriac. But I do think we ought to get back to our vessel before we talk. You are still not out of danger."

"Vessel? What sort? Where is it?"

"About a quarter of a mile from here," Charv offered, "and Ragma is correct. It will be safer if we depart this place immediately."

"I'll have to take your word for it," I said. "But you were looking for me—me specifically—weren't you? You knew my name. You seem to know something about me . . ."

"Then you have answered your own question," Ragma replied. "We had reason to believe you were in danger and we were correct."

"How? How did you know?"

They glanced at one another.

"Sorry," Ragma said. "That's another."

"Another what?"

"Thing we are not permitted to say."

"Who does your permitting and forbidding?"

"That's another."

"OK. I guess I'm up to walking that far. If I'm not, you'll know in a hurry."

"Very good," said Charv, as I got to my feet.

I felt steadier this time up, and it must have been apparent. He nodded, turned and began moving away with a very unkangaroo-like gait. I followed, and Ragma remained at my side. He maintained a bipedal posture this time.

The terrain was fairly level, so the going was not too bad. After a couple minutes' movement, I was even able to work up some enthusiasm at the thought of the peanut butter sandwich. Before I could comment on my improved condition, however, Ragma shouted something in Alienese.

Charv responded and took off at an accelerated pace, almost tripping over the lower extremities of his disguise. Ragma turned to me.

"He is going ahead to warm things up," he said, "for a quick liftoff. If you are capable of moving faster, please do so."

I complied as best I could, and, "Why the rush?" I inquired.

"My hearing is quite sensitive," he said, "and I have just detected the fact that Zeemeister and Buckler are now airborne. This would seem to indicate that they are either looking for you or departing. It is best to plan for the worst."

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"I take it that they are my uninvited guests and that their names are something you are permitted to say. What do they represent?"

"They are doodlehums."

"Doodlehums?"

"Antisocial individuals, intentional circumventors of statutes."

"Oh, hoodlums. Yes, I guessed that much on my own. What can you tell me about them?"

"Morton Zeemeister," he said, "indulges in many such activities. He is the heavy one with the pale fur. Normally, he remains away from the scene of his hoodling, employing agents to execute it for him. The other, Jamie Buckler, is one such. He has hoodled well for Zeemeister over the years and was recently promoted by him to guard his body."

My own body was protesting the increased pace at that point, so I was not immediately certain whether the humming in my ears was the product of a tidal bore in my river of red stuff or the sound of the sinister bird. Ragma removed all doubt.

"They are coming this way," he said, "quite rapidly. Are you able to run?"

"I'll try," I said, forcing myself.

The ground dipped, rose again. Ahead, then, I was able to make out what I took to be their vessel: a squashed bell of dull metal, duller squares that might be ports spotted irregularly about its perimeter, an opened hatch . . . My lungs were working like a concertina at a Polish wedding and I felt the first spray of the tide of darkness within my head. I was going to go under again, I knew.

Then came that familiar flicker, as of having taken a step back from reality. I knew that my blood was pooling in my guts, leaving me high and dry, and I resented my subservience to the hydraulics involved. I heard gunshots above the growing roar, as on the soundtrack for a distant show, and even this was not sufficient to draw me back. When your own adrenaline lets you down, who is there left to trust?

I wanted very badly to make it to that hatch and through it. It was not all that distant. I knew now that I would not. An absurd way to die. This near, and not understanding anything . . .

"I'm going!" I shouted toward the bounding form at my side, not knowing whether the words really came out that way.

The sounds of gunfire continued, tiny as elfin popcorn. Fewer than forty feet remained, I was certain, as I judge local distances in terms of horseshoe court lengths. Raising my arms to shield my face, I fell, not knowing whether I had been hit, scarcely able to care, forward, into a smooth blank that cancelled the ground, the sound, the trouble, my flight.

Thus, thus, so and thus: awak-

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ening as a thing of textures and shadings: advancing and retreating along a scale of soft/dark, smooth/shadow, slick/bright: all else displaced and translated to this: the colors, sounds and balances a function of these two.

Advance to hard and very bright. Fall back to soft and black . . .

"Do you hear me, Fred?"—the twilight velvet.

"Yes"—my glowing scales.

"Better, better, better . . ."

"What/who?"

"Closer, closer, that not a sound betray . . ."

"There?"

"Better, that cease the subvocals . . ."

"I do not understand."

"Later, for that. But one thing, a thing to say: Article 7224, section C. Say it."

"Article 7224, section C. Why?"

"If they wish to take you away—and they will—say it. But not why. Remember."

"Yes, but—"

"Later, for that . . ."

A thing of textures and shadings: bright, brighter, smooth, smoother. Hard. Clear.

Lying there in my sling during Wakeful Period One:

"How are you feeling now?" Ragma asked.

"Tired, weak, still thirsty."

"Understandable. Here, drink this."

"Thanks. —Tell me what happened. Was I hit?"

"Yes, you were hit twice. Fairly superficial. We have repaired the damage. The healing should be complete in a matter of hours."

"Hours? How many have passed since we departed?"

"Three, approximately. I carried you aboard after you fell. We lifted off, leaving your assailants, the continent, the planet, behind. We are in orbit about your world now, but we will be departing it shortly."

"You must be stronger than you look, to have carried me."

"Apparently so."

"Where do you intend taking me from here?"

"To another planet—a most congenial one. The name would mean nothing to you."

"Why?"

"Safety and necessity. You seem to be in a position to provide information that could be very helpful in an investigation with which we are connected. We wish to obtain that information, but there are others who would like to have it also. Because of them, you would be in danger on your own planet. So, for purposes of insuring your safety as well as furthering our inquiry, the simplest thing is to remove you."

"Ask me. I'm not ungrateful for the rescue. What do you want to know? If it is the same thing Zeemeister and Buckler wanted though, I'm afraid I can't be of much help."

"We are operating under that as-

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sumption. We believe that the information we require of you exists at an unconscious level, however. The best means of extracting something of that sort is through the offices of a good telepathic analyst. There are many such in the place we will be visiting."

"How long will we be there?"

"You will remain there until we have completed our investigation."

"And how long will that take?"

He sighed and shook his head.

"At this point, it is impossible to say."

I felt the soft blackness brush like the tail of a passing cat against me. Not yet! No . . . I couldn't just let them haul me off that way, for an indefinite leave of absence from everything I knew. It was in that moment that I appreciated the deathbed peeve—loose ends, all the little things that should be wrapped up before you go away: write that letter, settle up those accounts, finish the book on the night table . . . If I dropped out at this point in the semester, it would screw me up academically, financially—and who would buy my explanation? No. I had to stop them from taking me away. But the smooth to soft shadings were on the rise once more. I had to be quick.

"I'm sorry," I managed, "but that is impossible. I can't go with . . ."

"I am afraid that you must. It is absolutely necessary," he said.

"No," I said, panicking, fighting against fading before I could settle this matter. "No—you can't."

"I believe a similar concept exists in your own jurisprudence. You call it 'protective custody'."

"What about article 7224, section C?" I blurted out, feeling my speech slip over into a slur as my eyes fell closed.

"What did you say?"

"You heard me," I remember muttering. "Seven—two—two—four. Sec—tion—C . . . That's why . . ."

And then, again, nothing.

The cycles of awareness bore me back—to consciousness or within spitting distance of it—several times more, before I stuck at something approaching full wakefulness and filled it with California-watching. It was by degrees that I became aware of the argument that filled the air, obtaining its content in a detached, academic sort of way. They were upset over something that I had said.

Oh yes . . .

Article 7224, section C. It had to do, I gathered, with the removal of intelligent creatures from their home planets without their consent. Part of a galactic treaty to which my rescuers' worlds were signatory, it was the closest thing to an interstellar constitution that they had. There was, however, sufficient ambiguity in the present situation to make for a debatable issue, in that there was also provision for removal without consent for a variety of overriding causes, such as quar-

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antine for species protection, nonmilitary reprisal for violations of certain other provisions, a kind of sensitive catchall for "interstellar security" and several more along these lines, all of which they discussed and rediscussed at great length. I had obviously touched on a delicate area, especially in light of the recency of their initial contact with Earth. Ragma kept insisting that if they chose one of the exceptions as controlling and removed me on that basis, their legal department would back them up. If it ever actually came to a point where an adjudication became necessary and they were reversed he felt that he and Charv would not be held especially liable for their interpretation of the law, in that they were field operatives rather than trained legal personnel. Charv, meanwhile, maintained that it was obvious that none of the exceptions applied and that it would be even more obvious what they had done. Better, he decided, to let the telepathic analyst they employed implant the desire to cooperate within my mind. There were several, he was certain, who could be persuaded to solve their problem in that fashion. But this irritated Ragma. It would be a clear violation of my rights under another provision, as well as concealment of the evidence of their violation of this one. He would have no part of it. If they were going to move me, he wanted a defense other than concealment. So they reviewed the exceptions again, pondering each word, letting the words talk to each other, recalling past cases, sounding the while like Jesuits, Talmudists, dictionary editors or disciples of the New Criticism. We continued to orbit the Earth.

It was not until much later that Charv interrupted things with a question that had been bothering me all along:

"Where did he learn about Article 7224, anyway?"

They repaired to the sling, interrupting my view of storm patterns off Cape Hatteras. Seeing that my eyes were open, they nodded and gestured in what I believe they intended as a pantomime of good will and concern.

"Have you been resting well?" Charv inquired.

"Quite."

"Water?"

"Please."

I drank some, then, "Sandwich?" he asked.

"Yes. Thanks."

He produced one and I began eating.

"We have been quite concerned over your well-being—and about doing the right thing in your case."

"That is good of you."

"We have been wondering about something that you said a while back, dealing with our offer to provide you with sanctuary during a fairly routine investigation we will be conducting on your planet. It

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seemed as if you cited a section of the Galactic Code just before you dropped off to sleep last time. But you mumbled somewhat and we could not be certain. Was this the case?"

"Yes."

"I see," he said, adjusting his sunglasses. "Would you mind telling us how you became acquainted with its provisions?"

"Such things travel quickly in academic circles," I offered, which was the best response I could locate in my supply of misleading statements.

"It is possible," said Ragma, dropping back into whatever they had been speaking earlier. "Their scholars have been working on translations. They may be completed by now and circulating about their universities. It is not my department, so I cannot be certain."

". . . And if somebody has put together a course on the subject, this one has probably taken it," said Charv. "Yes. Unfortunate.

"Then you must be aware," Charv continued, switching back to English and aiming it in my direction, "that your planet is not yet signatory to the agreement."

"Of course," I replied. "But then, my concern is really with your own actions under its provisions."

"Yes, of course," he said, glancing at Ragma.

Ragma moved nearer, his unblinking wombat eyes holding something approaching a glare.

"Mr. Cassidy," he said, "let me put it as simply as possible. We are law officers—cops, if you like—with a job to do. I regret that we cannot give you the particulars, as it would probably make it much easier to obtain your cooperation. As it is, your presence on your planet would represent a distinct impediment to us, while your absence would make things considerably simpler. As we have already told you, if you remain you will be in some danger. Bearing this in mind, it seems obvious that we would both be best served if you would agree to a small vacation."

"I'm sorry," I said.

"Then perhaps," he went on, "I may appeal to your venality as well as your much-lauded primate adventuresomeness. A trip like this would probably cost you a fortune if you could arrange it yourself, and you would have an opportunity to see sights none of your kind has ever witnessed before."

It did get through to me, that. At any other time I would not have hesitated. But my feelings had just then sorted themselves out. It went without saying that something was amiss and that I was a part of it. But it was more than the world that was out of whack. Something that I did not understand had happened/was happening to me. I grew convinced that the only way I could discover it and remedy or exploit it was to stay home and do

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my own investigating. I was doubtful that anyone else's would serve my ends as I would have them served.

So, "I am sorry," I repeated.

He sighed, turned away, looked out the port and regarded the Earth.

Finally, "Yours is a very stubborn race," he said.

When I did not respond, he added, "But so is mine. We must return you if you insist. But I will find a way to achieve the necessary results without your cooperation."

"What do you mean?" I asked.

"If you are lucky," he said, "you may live to regret your decision."

V.

Hanging there, tensing and untensing my muscles to counteract the pendulum-effect of the long, knotted line, I examined the penny on which Lincoln faced to the left. It looked precisely the way a penny would look if I were regarding it in a mirror, reversed lettering and all. Only I was holding it in the palm of my hand.

Beside/below me, where I dangled but a couple of feet above the floor, hummed the Rhennius machine: three jet-black housings set in a line on a circular platform which rotated slowly in a counterclockwise direction, the end units each extruding a shaft—one vertical, one horizontal—about which passed what appeared to be a Moebius strip of a belt almost a meter in width, one strand-half running through a tunnel in the curved and striated central unit, which faintly resembled a wide hand cupped as in the act of scratching.

Pumping my knees, feet braced against the terminal knot, I set up a gentle swaying that bore me, moments later, back above the ingoing aperture of the middle component. Lowering myself, extending my arm, I dropped the penny onto the belt, was halted at the end of my arc, began the return swing. Still crouched and reaching, I snared the penny as it emerged.

Not what I had expected. Not at all, and no indeed.

In that its first journey through the innards of the thing had reversed the coin, I had assumed that running it through the works again would return it to normal. Instead, I now held a metal disk on which the design was properly oriented, but was incised, intaglio-like, rather than raised. This applied to both sides, and in the place of the milling the edges were step-recessed, like a train wheel.

Curioser and curioser. I would simply have to do it again to see what happened next. I straightened, gripped the line with my knees, began to redirect my errant arc.

For a moment, I glanced up into the gloom where my thirty-foot puppet string reached to its shadowy bar. An I-beam, too near the ceiling to mount, I had traversed it aardvark-style—ankles locked

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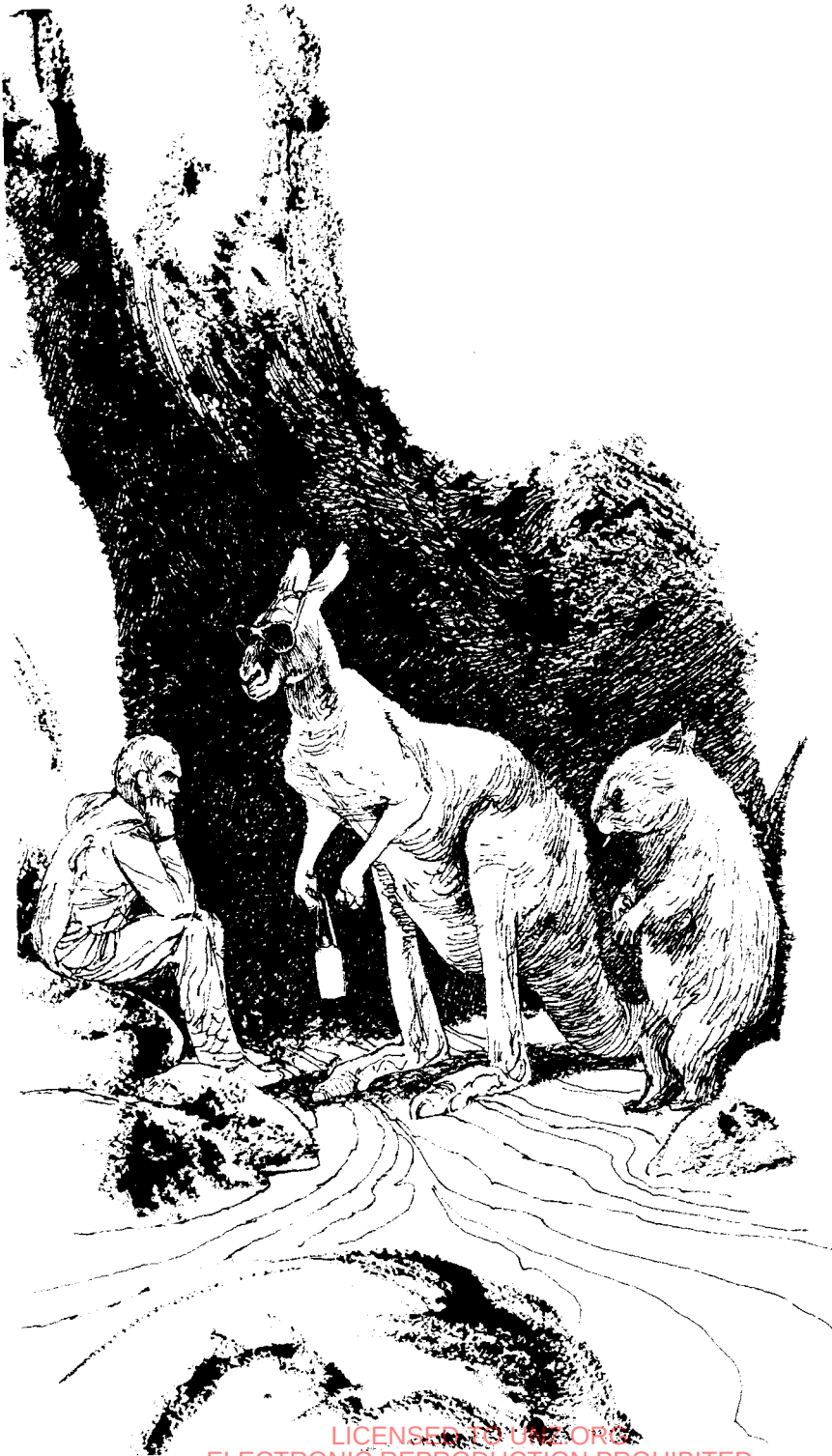

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above, letting my fingers do the walking. I wore a dark sweater and trousers and had on thin-soled suede boots. I had carried the line coiled about my left shoulder until I had reached a point as near to being directly above the apparatus as was possible.

I had made my way in through a skylight I had had to jimmy after cutting away some grillwork and jump-wiring three alarms in a fashion which produced a small nostalgia for my abandoned major in electrical engineering. The hall below was dim, the only illumination provided by a series of floor-level spots which encircled the display and concentrated their beams upward upon it. A low guard rail enclosed the machine, and concealed electric eyes fenced it invisibly. Sensor plates within the floor and the platform would betray a footstep. There was a television camera bolted to my beam. I had turned it slowly, slightly, so that it was still focused on the display—only farther southward, as I planned to descend on the north side where the belt was flattest just before it reached the central unit—a guesstimate, from those four courses in TV production. There were guards in the building, but one had just made his rounds and I planned to be quick. All plans have their limits and hazards, which is why insurance companies get rich.

The night was cloudy and a very cold wind went around in it. My breath flapped ghostly wings and flew away. The only witness to my finger-numbing exercises on the roof was a tired-looking cat crouched in the scuttleway. The chill had been about when I had arrived in town the night before, a journey resulting from a decision I had reached on Hal's couch the previous day.

After Charv and Ragma had, at my request, set me down about fifty miles out of town during the dark of the moon, I had hitched rides and gotten back to my neighborhood well after midnight. And a good thing it was that I had.

There is a side street that dead-ends into my own, and my building is right across the way from it. As you proceed along that side street the windows of my apartment are in plain sight. More naturally in night's dark and quiet than they would by day, my eyes sought them. Dark, as they should be. Blank. Vacant.

But then, half a minute later, as I neared the corner, came a small flare, a tiny flickering, blackness again.

Any other time and I would have dismissed it if I had noted it at all. It could very easily have been a reflection or an imagining. Yet . . .

Yes. But recently recuperated and still full of warnings, I would be a fool to be anything but wary. Neither a fool nor a raisin be, I told myself as I put on my waries, turned right and headed away.

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I walked a pair of blocks to and a couple fro, coming at last up the alley behind my building. There was a rear entranceway, but I avoided it, making my way to a place where I could go from pipe to sill to ledge to fire escape, which I did.

In a very brief while I was on the roof and moving across it. Then down the pipe to the place I had stood when talking with Paul Byler. I edged forward from there and peered in my bedroom window. Too dark to tell anything for certain. It was the other window, though, which had framed what might have been the lighting of a cigarette.

I rested my fingertips on the window, pressed firmly, then exerted a steady pressure upward. It slid open without a sound, the reward of consideration. Being an erratic sleeper and fond of my nighttime gambols, I kept the running-grooves heavily waxed so as not to disturb my roommate.

Leaving my shoes behind on the ledge, I entered and stood still, ready to flee.

I waited a minute, breathing slowly, through my mouth. Quieter that way. Another minute . . .

A creak from my uneasy easy chair reached me, an effect it always manages when its occupant uncrosses and recrosses his legs.

That would place a person to the right of the desk in the front room, in a position near to the window.

"Is there any coffee left in that thing?" a harsh voice managed softly.

"I think so," came the reply.

"Then pour me some."

Sounds of a thermos being unstoppered. Pouring. A few scrapes and bumps. A muttered "Thanks." They placed the other fellow at the desk itself.

A slurp. A sigh. The scratch of a match. More silence.

Then, "Wouldn't it be funny if he'd gotten himself killed?"

A snort.

"Yeah. Not bloody likely, though."

"How can you say that?"

"He stinks of luck, or something like it. And he's such an odd one, to begin with."

"That I'll buy. Wish he'd hurry up and find his way home."

"That makes for two of us."

The one in the easy chair got to his feet and moved to the window. After a time, he sighed, "How long, how long, oh Lord?"

"It will be worth the wait."

"I'm not denying it. But the sooner we catch hold of him the better."

"Of course. I'll drink to that."

"Hear! What've you got there?"

"A bit of brandy."

"You've had that all along and you've been giving me this black mud?"

"You kept asking for coffee. Besides, I just found it a while back."

"Pass it here."

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"There's another glass. Let's be genteel. It's good stuff."

"Pour!"

I heard the cork come out of my Christmas bottle. A few clinks followed, and footfalls.

"Here you are."

"Smells good."

"Doesn't it?"

"To the Queen!"

A shuffling of feet. A single clink.

"God save 'er!"

They reseated themselves after that and grew silent once again. I stood there for perhaps a quarter of an hour, but nothing more was said.

So I edged my way to the corner rack, found some money I had left behind still in its place in the boot, removed it, pocketed it, removed myself back to the ledge.

I closed the window as carefully as I had opened it, retreated to the roof, cut across the path of a black cat who arched his back and spat—doubtless superstitious, not that I blamed him—and made my way away.

After scouting Hal's building for loiterers other than myself and not spotting any, I rang his place from the booth on the corner. I was somewhat surprised to have my call answered in a matter of seconds.

"Yeah?"

"Hal?"

"Yeah. Who's this?"

"Your old buddy who climbs things."

"Hoo boy! What kind of trouble are you in, anyway?"

"If I knew that I'd have something for my pains. Can you tell me anything about it?"

"Probably nothing important. But there are some small things that might—"

"Listen, may I come over?"

"Sure, why not?"

"Now, I mean. I hate to be a bother, but—"

"No trouble. C'mon up."

"Are you all right?"

"Matter of fact, no. Mary and I had a little difference of opinion and she's spending the weekend at her mother's. I'm half-stoned, which leaves me half-sober. Which is enough. You tell me your troubles and I'll tell you mine."

"It's a deal. I'll be there in half a minute."

"Great. See you then."

So I cradled it, walked over, went in, buzzed his number and got admitted. Moments later I was knocking on his door.

"Prompt, oh prompt," he said, swinging it wide and stepping aside. "Enter, pray."

"In which order?"

"Oh, bless this house, by all means, first. It could use a little grace."

"Bless," I said, stepping in. "Sorry to hear you got troubles."

"They'll pass. It started out with a burnt dinner and being late for a show, that's all. Stupid thing. I thought it was her when the phone rang. I guess I'll have to do my

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apologizing tomorrow. The hangover should make me sound exceptionally repentant. —What're you drinking?"

"I don't really— Oh, what the hell! Whatever you've got there."

"A drop of soda in a sea of Scotch."

"Make it the other way around," I said, moving on into the living room and settling in a big, soft, tilted chair.

Moments later, Hal came in, handed me a tall glass from which I took a healthy slug, sat down across from me, tasted his own, then said, "Have you committed any especially monstrous acts lately?"

I shook my head.

"Always the victim, never the victor. What have you heard?"

"Nothing, really. It's all been implication and inference. People have been asking me a lot about you, but not telling me much."

"People? Who?"

"Well, your adviser Dennis Wexroth was one—"

"What did he want?"

"More information about your individual project in Australia."

"Like, for instance . . .?"

"Like where. He wanted to know exactly where you were digging around."

"What did you tell him?"

"That I didn't know, which was reasonably true. This was over the phone. Then he stopped by in person, and he had a man along with him—a Mr. Nadler. The guy had an ID card saying he was an employee of the State Department. He acted as if they were concerned about the possibility of your removing artifacts from over there and creating an incident."

I said something vulgar.

"Yeah, that's what I thought, too," he said. "He pressed me to rack my memory for anything you might have said concerning your itinerary. I was tempted to misremember, say, Tasmania. Got scared, though. Didn't know what they could do. So I just kept insisting you hadn't told me anything of your plans."

"Good. When did this happen?"

"Oh, you'd been gone for over a week. I'd gotten your postcard from Tokyo."

"I see. That's it, then?"

"Hell, no. That was just the beginning."

I took another big swallow.

"Nadler was back the next day, asking whether I'd remembered anything else. He'd already given me a number to call if I did, or if I heard from you. So I was irritated. I said no and got rid of him. Then he came around again this morning to impress on me that it was to your benefit if I cooperated, that you might be in trouble and that I could help you by being honest. By the time they had learned of your difficulties at the Sydney Opera House, he said, you'd disappeared into the desert. —What happened at

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the Sydney Opera House anyway?"

"Later, later. Get on with it. Or is that all?"

"No, no. I got irritated again, told him no again and that was all so far as he was concerned. But there were other inquiries. I received at least half a dozen phone calls from people who claimed they just had to get in touch with you, that it was very important. None of them would say why, though. Or give me anything that could be used to trace them."

"What do you mean? Did you try tracing them?"

"No, but the detective did."

"Detective?"

"I was just getting to that part. This place has been broken into and ransacked on three separate occasions during the past two weeks. Naturally, I called the cops. I didn't see any connection with the calls, but after the third time the detective wanted me to tell him about anything unusual that had happened recently. So I mentioned that strange people kept calling and asking for a friend who was out of town. Several of them had left numbers, and he thought it was worth looking into. I talked with him yesterday though, and he said nothing had turned up. All of them were from semi-public phones."

"Was anything stolen?"

"No. That bothered him, too."

"I see," I said, sipping slowly. "Has anyone approached you directly with unusual questions not involving me? Specifically, about that stone of Byler's?"

"No. But you might be interested in knowing that his lab was broken into while you were away. No one could really tell whether anything was missing. Getting back to your other question though, while nobody approached me about the stone, someone seemed to be getting near for some purpose or other. Maybe it was tied in with the entry and searching here. I don't know. But for several days it seemed that I was being followed about. I didn't pay much attention at first. Actually, it wasn't until things started happening that I thought of him. The same man, not especially obtrusive, but always around—somewhere. Never came near enough for me to get a good look. At first I thought I was just being neurotic. Later, of course, he came to mind. Too late, though. He disappeared after the police started paying attention to me and to this building."

He tossed off the rest of his drink and I finished mine.

"That pretty much summarizes things," he said. "Let me fix us a couple more of these, then you tell me what you know."

"Go ahead."

I lit a cigarette and pondered. There had to be a pattern to all this, and it seemed likely that the star-stone was the key. There were too many subsidiary actions to try to separate, analyze, follow up in-

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dividually. If I knew more about the stone though, I felt that these recent happenings might begin to drift into truer perspective. Thus began my list of priorities.

Hal returned with the drinks, gave me mine, reseated himself.

"All right," he said, "considering everything that's been happening here, I'm ready to believe anything you've got to tell me."

So I told him most of what had occurred since my departure.

"I don't believe you," he said, when I had finished.

"I can't lend you my memories in any better condition."

"OK, OK," he said. "It's weird. But then, so are you.—No offense. Let me fog my brain a little more and I'll try to consider it. Right back."

He went and freshened the drinks again. I was beyond caring. I had lost count during the time I'd been talking.

"You were being serious?" he finally said.

"Yes."

"Then those fellows are probably still back at the apartment."

"Possibly."

"Why not call the police?"

"Hell, for all I know they may *be* the police."

"Toasting the Queen that way?"

"Could be their old alma mater's Homecoming Queen. I don't know. I'd just as soon no one knew I'm back, till I've learned more and done more thinking."

"OK. Silence here. What can I do to help?"

"Think. You've been known to have an original idea every now and then. Come up with one."

"All right," he said. "I have been thinking about it. Everything seems to go back to the star-stone facsimile. What is it about the thing that makes it so important?"

"I give up. Tell me."

"I don't know. But let's consider everything that is known about it."

"OK. The original came to us on loan as part of that cultural exchange deal we've joined. It was described as a relic, a specimen of unknown utility—but most likely decorative—found among the ruins of a dead civilization. Seems to be synthetic. If so, it may be the oldest intelligently fashioned object in the galaxy."

"Which makes it priceless."

"Naturally."

"If it were lost or destroyed here, we could be kicked out of the exchange program."

"I suppose that is possible . . ."

" 'Suppose', hell! We can. I looked it up. The library now has a full translation of the agreement, and I got curious enough to see what it said. A hearing would be held, and the other members would vote on the matter of our expulsion."

"Good thing it hasn't been lost or destroyed."

"Yeah. Great."

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"How could Byler have gotten access to it?"

"My guess is still the UN itself—that they approached him to create a duplicate for display purposes, he did it and then there was a mixup."

"I can't see the mixup, on something that important."

"Then suppose it was intentional."

"How so?"

"Say they loaned it to him, and instead of returning the original and a copy he returned two copies. I can see him as wanting to hang onto it and study it for as long as he could. He could have given it back when he was finished or caught, whichever came first, and claimed he had made a simple error. No fuss could be raised, with the entire enterprise that clandestine. Or perhaps I am being too devious. Maybe he'd had it on a legitimate loan all the while, studying it at their request. Whichever, let us suppose that he'd had the original up until a while back."

"All right, say that."

"Then it vanished. Either it got mixed in and thrown out with some of the inferior replicas, or it was the one given to us in error."

"To you, to you," I said, "and not in error."

". . . Paul arrived at this conclusion, too," he continued, ignoring the assignment of guilt. "He panicked, went looking and roughed us up in the process."

"What precipitated his wising up?"

"Someone spotted the ringer and asked him for the real one. When he looked it wasn't there."

"And he got dead."

"You said the two men who questioned you in Australia as much as admitted having done him in as a by-product of questioning him."

"Zeemeister and Buckler. Yes."

"The undercover wombat told you they were hoodlums."

"Doodlehums, but go ahead."

"The UN informed the member nations—which is where the State Department comes into the picture in our case. Somewhere, there was a tear in the beanbag though, and Zeemeister decided to locate the stone first in order to claim a large ransom. Pardon me, a reward."

"It does make a kind of surrealistic sense. Continue."

"So we might have had it and everybody knows it. We don't know where it is, but nobody believes us."

"Who is everybody?"

"UN officials, the foggy bottom boys, the doodlehums and the aliens."

"Well, granting that the aliens have been informed and are actually assisting in the investigation, Charv and Ragma become a little more understandable—with their thing about security and all. But then, something else bothers me. They seemed awfully sure that I

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know more than I thought I did concerning the stone's whereabouts. They even felt that a telepathic analyst might turn up some useful leads in my subconscious. I wonder what gave them that idea?"

"You've got me there. Perhaps they have eliminated almost everything else. And maybe they are right. It did seem to vanish rather strangely. I wonder . . .?"

"What?"

". . . If you do know something useful, something you may have suppressed for some reason? Perhaps a good non-telepathic analyst could drag it out, too. Hypnosis, drugs . . . Who knows? What about that Dr. Marko you used to go to?"

"It's a thought, but it would take a long while to convince him as to the reality of all the preliminaries he'd need to know before he could go to work. Might even think I've lost touch, trank me up and give me the wrong therapy. No. I'll hold off on that angle for now."

"Where does that leave us?"

"Drunk," I said. "My higher cerebral centers all just moved off-center."

"Want me to make some coffee?"

"No. Consciousness is losing six to nothing and I'd like to retire gracefully. Mind if I sleep on the couch?"

"Go ahead. I'll get you a blanket and a pillow."

"Thanks."

"Maybe we'll have some fresh ideas in the morning," he said, rising.

"Thinking them will be painful, whatever they are," I said, going over to the couch and kicking off my shoes. "Let there be an end to thought. Thus do I refute Descartes."

I sprawled, not a cogito or a sum to my name.

Obliv—

There was a teletype machine in a room at the back of my mind. It had never been used. Within the uncreation where the not-I didn't exist for a peaceful interval of non-time, however, it stuttered and spewed, synthesizing some recipient who resembled myself for purposes of pestering him . . .

::
::::::::::::::::::DO YOU HEAR ME, FRED? ::::::::::::::::::::::::::::::::::::
::
::::::::::::::::::DO YOU HEAR ME, FRED? ::::::::::::::::::::::::::::::::::::
:::::::::::::::::::YES ::::::::::::::::::::
:::::::::::::::::GOOD::::::::::::::::::::
::::::::::::::::::::WHO ARE YOU?
::
::::::::::I AMXXXXXXXXXXXXX
::
::::::::::::::::::DO YOU HEAR ME, FRED? ::::::::::::::::::::::::::::::::::::
:::::::::::::::YES. WHO ARE YOU?
::
::::::I AMXXXXXX IXXXXXXXX
::::::::::ARTICLE 7224 SECTION C. I BROUGHT IT::::::::::::::::::::

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TO YOUR ATTENTION ::::::::::
::
::::::::::::ALL RIGHT ::::::::::::::
::
::::::::::::::::::::::::::::::::CAN YOU OBTAIN AN N-AXIAL INVERSION UNIT?::::::::::::::::::
::::::::::::::::::NO ::::::::::::::::::
::
::::::IT IS IMPORTANT ::::::::::::::
::IT IS ALSO UNDEFINED::::::::::::::::::
:::
::::::::::NECESSARY ::::::::::::::::
:::
::::::::::::::::::::::::::::WHAT THE HELL IS AN N-AXIAL INVERSION UNIT?::::::::::::::::::
::::::::::::::::::::::::TIME NAMES CORRESPONDENCESXXXXXXX THE RHENNIUS MACHINE. THAT MECHANISM::::::::::::::::
::
::::::::::::::::::::I KNOW WHERE IT IS. YES::::::::::::::::::::::::
::
::::::::::::::::::::::::::::GO TO THE RHENNIUS MACHINE. TEST ITS INVERSION PROGRAM ::::::
::
::::::::::::::HOW? ::::::::::::::::::
::
::::::::::::::::::::::::OBSERVE THE PROGRESSIVE ::::::::::::::::::::
::::::::::::::::TRANSFORMATIONS OF AN OBJECT PASSED THROUGH ITS MOBILATOR :::::
::
::::::::WHAT IS A MOBILATOR?
::
::::::::::::::::::::::::THE CENTRAL UNIT THROUGH WHICH ITS BELT MOVES::::::::::::::::::
::
::::::::::::::::IMPOSSIBLE TO GET THAT CLOSE TO THE THING. IT IS ::::::::::::::::::::::::
UNDER GUARD::::::::::::::::::
::
::::::::::::::::VITAL::::::::::::::::
::
::::::::::::::::::WHY? ::::::::::::::::
::
::::::TO REFORMULATEXXXXXXXXXXXXXXXXXXXXX TO REFORM XXXXXXXXXXXXXXX TOXXXXXXXX::::::::::::::::::
::
::::::::::::::::DO YOU HEAR ME, FRED? ::::::::::::::::::::::::::
YES ::::::::::::::::::::::::::::::::::::
::
GO TO THE RHENNIUS MACHINE AND TEST ITS INVERSION PROGRAM::::::::::::
::
SUPPOSING I CAN DO IT. WHAT THEN?::::::::::::::::::
::
::::::::::::::::::::::THEN GO AND GET DRUNK ::::::::::::::::::::
::
PLEASE REPEAT ::::::::::::::::::
::
TEST THE INVERSION PROGRAM AND GO INTOXICATE YOURSELF ::::::::::::
::
:::::ANYTHING ELSE? ::::::::::::
::::::::::SUBSEQUENT ACTIONS CONTINGENT UPON UNDETERMINED EVENTS::::::::::::::::

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:::::::::::::::::::::::WILL YOU DO THIS?::::::::::::::::::::::

bubble, as I sat there assembling the morning and myself.

Whatever prompted it, the thing I had gotten in lieu of the usual unsolicited dreams returned to me between a puff and a sip, far clearer than my id-sponsored late-late monster shows ever were.

Having decided earlier to accept the peculiar in the proper spirit, I confined my considerations to the matter of content. It made as much sense as any of a number of things I had recently experienced, and possessed the virtue of requiring a positive action on my part at a time when I was weary of being acted upon.

So I folded the blankets and placed them in a neat heap with the pillow on top. I finished my coffee, poured a second cup and turned the pot down to a simmer. I located some writing paper atop a miscellaneous chest of drawers and scrawled a note: "Hal– Thanks. I've a thing I'm off to pursue. It came to me last night. Quite peculiar. Will call in a day or so & let you know what comes of it. Hope everything is happily ever after again by then. –Fred. P.S. The coffee is on." Which covered everything I could think of. I left it on the other end of the sofa.

I got out and headed for the bus station. A long ride lay ahead. I would arrive too late, but the next day I would see the Rhennius machine during normal viewing hours and figure a way to get at it for a private showing later on.

And I did.

Voila! Lincoln stared to my right again and everything else seemed in its proper place. I pocketed the cent, steadied myself, began to climb.

Halfway up, brassy bongs bloomed in my ears, my nervous system came unzipped and my arms turned to putty. The free end of the line was swinging widely. Perhaps it had struck something, or gotten into range of the camera. Academic, whichever.

Moments later, I heard a shouted, "Raise your hands!" which probably came to mind a lot more readily, say, than, "Stop climbing that rope and come back down without touching the machine!"

I did raise them, too, rapidly and repeatedly.

By the time he was threatening to shoot, I was across the beam and eyeing the window. If I could spring, catch hold, pull, vault, pass horizontally through the eighteen-inch opening I had left myself and hit the roof rolling, I would have a headstart with a variety of high routes before me. I would have a chance.

I tensed my muscles.

"I'll shoot!" he repeated, almost directly beneath me now.

I heard the shot and there was glass in the air as I moved.

TO BE CONTINUED

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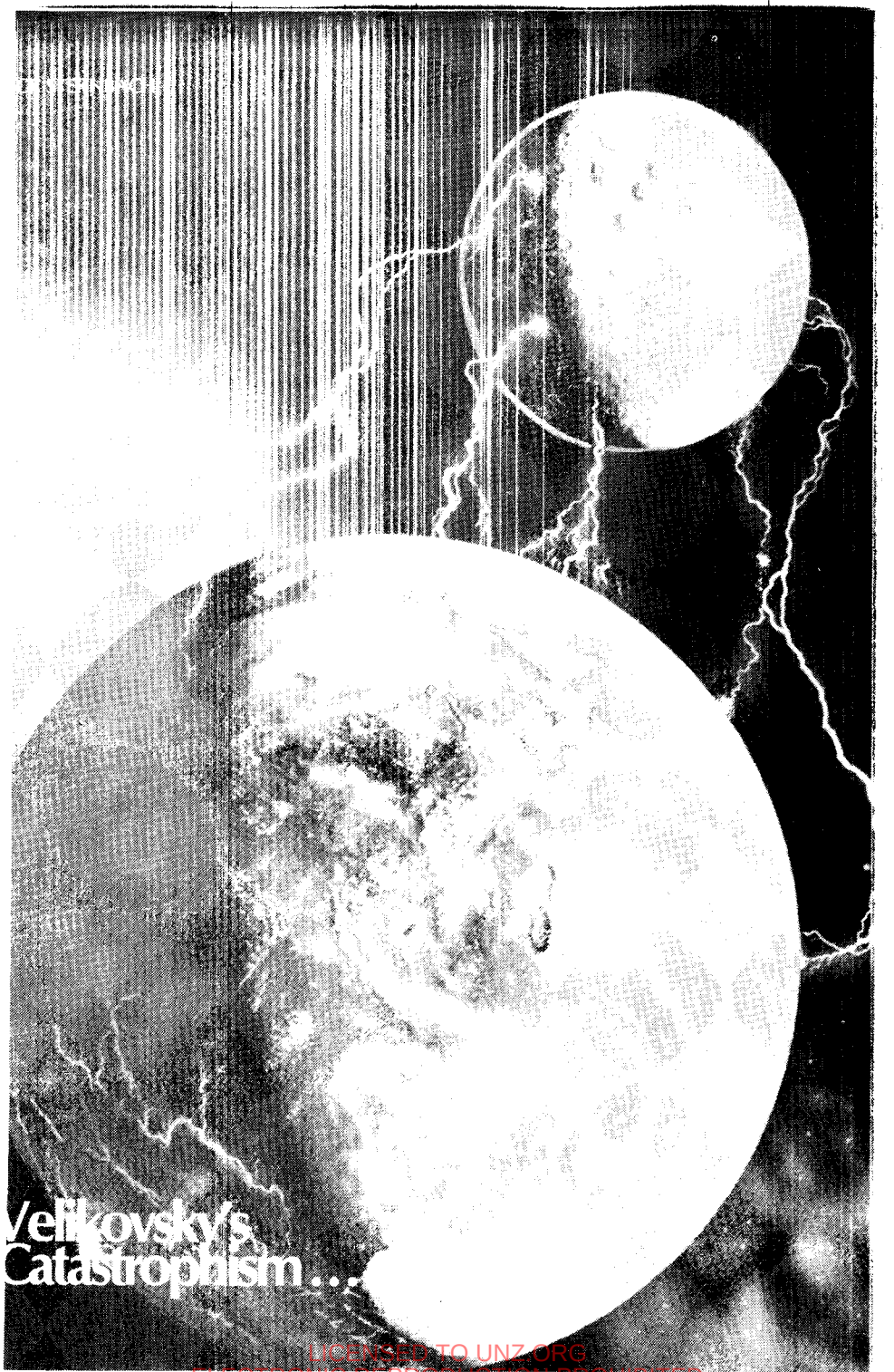

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Editor's Note: Our October 1974 "Special Velikovsky Issue" elicited a considerable response from readers—for, against, and undecided—showing that the Velikovsky controversy is far from settled. In an attempt to shed further light on the subject, we present here the viewpoint of Dr. Irving Michelson, professor in the Department of Mechanics and Mechanical and Aerospace Engineering at the Illinois Institute of Technology. Dr. Michelson describes his approach as "scientific, with no ax to grind."

Dr. Velikovsky really knows how to make his point. He convinces nearly everyone that Venus is a planet-come-lately in our Solar System. Everyone but the astronomers, that is. And *they* are the best planet experts we have. These keepers of the official wisdom declare his theories are preposterous—and they call him unflattering names. What are we to believe?

Physician-psychiatrist and "interdisciplinary thinker" Immanuel Velikovsky sees establishment scientists as a bunch of intellectual bigots who persecute him—and he has some unkind names to call them, too. It's all supposed to be in the name of truth that both sides speak—but each one comes to conclusions in violent conflict with the other.

Truth here means facts—not the fancy of our imaginations or emotions, but honest-to-goodness "hard facts" of the unarguable variety that we think of as SCIENCE. Let's put ourselves in the position of the honest scientist with no ax to grind—and then try to decide in a purely logical-objective manner what it makes sense for us to believe. That is the purpose of this article: to crystalize *our own* thoughts and opinions.

Velikovsky's Claims—Evidence of Physical Science

To start with, recall that Dr. Velikovsky claims Venus did not exist as a planet as recently as 3,500 years ago. That's "historical times" because civilization was sufficiently well developed for there to be both archeological evidence and even deliberate record-keeping that bears witness to events of those times. If a comet collided or nearly collided with Earth, causing great upheavals before going its celestial way and eventually ending up as our nearest planetary neighbor, *historical* evidence should bear this out. Velikovsky claims it does. As-

...A Scientific View

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tronomers say it's hogwash. So where does that leave us?

Well, there are other kinds of evidence to be considered, too. Like the Laws of Nature. Astronomers believe in these with utmost faith. So does Velikovsky. We can submit the matter to the mediation of those laws that both sides agree are both valid and relevant. What are these great Laws?

First and foremost is the set of "laws of motion" firmly established since Isaac Newton presented them in 1687. They tell us that the apple falls downward toward the Earth—never upward. They also tell us precisely how fast it falls at each instant as the Earth's gravity tugs on it. And it is exactly the same laws that tell us how the Sun's gravity has such a grip on Earth as to send it around one complete orbit every 365.25636274 days. (That number, incidentally, having values out to the eighth decimal place, in a year-length specified to no fewer than twelve "significant figures," should also carry the message of extreme precision in our astronomical knowledge.) Newton's discoveries relating to motion include one law that tells how *any force* acting on a body (apple or planet or any other) will modify its motion, and another that specifies the *gravitational force* exerted by one body (like the Sun) on any other body (Earth, Venus, apple) when the mass of each and their separation distance are specified. The science of mechanics works these back and forth, enabling us to know the motions, and the masses, and the positions with great accuracy. Celestial mechanics deals with the application of these laws to the motions of the heavenly bodies. Because it considers gravitational forces and omits other types of forces, it could be more descriptively called celestial *gravi*-mechanics. One consequence of Velikovsky's claims, in fact, will be seen to lead to the new and almost untouched study of celestial *electro*-mechanics—we merely mark the distinction here by noting the more accurate names to describe each one.

All scientists—Velikovsky included—are ready to subscribe to the laws of Newtonian (or classical) mechanics, *i.e.*, to acknowledge both that they are correct-pertinent-valid-accurate and wholly trustworthy, and also that they were just the same in all times past for all practical purposes. Their conclusions are termed "dynamical evidence," and all are also willing to

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concede that there is no evidence of higher quality than the dynamical evidence. Archeological, geological, literary, mythical, philosophical, and religious knowledge all have their value and their place—but to the extent that they can be disputed by deriving alternative conclusions (evidence or testimony), their standing in logical argument justifies much less than absolute conviction. Somewhat like circumstantial or hearsay evidence in a court of law, they sometimes deserve to be ignored altogether. Useful as they are in pointing to hard facts, they take second place to dynamical evidence, whenever that is available, for purposes of nailing the facts down solidly.

Astronomers are so hard-nosed in their rebuffs of Velikovsky precisely because the laws of mechanics are their stock-in-trade, while the brilliant Doctor has found no need to rely on such pedestrian concepts. He concedes the Laws of Nature were operating always in full force during the cataclysmic periods he identifies, but believes he has ample evidence to make his case from other quarters. Good tight-rope walkers need no support from sky-hooks or even balance bars so essential to lesser mortals—and Velikovsky finds no need for computer solutions of the mathematical equations expressing the Laws of Nature—nor even for a slide rule (which he says he has never owned).

So you may wonder what match is this 79-year-old interdisciplinary thinker against the multibillion-dollar science establishment of the 1970's, with its thousands of brilliant and highly educated minds supported by the latest ultra-modern equipment of the highest quality? Can David still beat Goliath? Dr. Velikovsky claims he has done just that, and points to an impressive record to prove it.

He made a large number of claims as long ago as 1950 and earlier, on the basis of his theories. He claimed, among other things, that Venus is very hot, and rotates in a peculiar fashion; that the Earth has a magnetosphere and that it reaches at least to the Moon; that Jupiter emits radio signals. And other claims, instantly branded as preposterous. Then came the Space Age starting in 1957, and one after another his claims were verified (in his eyes), or "discovered" by scientists who vehemently deny that he has any right to claims of priority. Some of his claims are still not proved—and there is no guarantee they ever will be—but the man's track record is impressive.

Well, you may ask, what does all that *prove?* Granted that Venus is hotter than astronomers earlier told us, even grant that Velikovsky told us so before we had the means to go out and measure as we can now—does that prove that a comet brushed past the Earth a few thousand years ago—and later turned

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into planet Venus? No matter how big the Earth's magnetosphere may be, or how many radio signals are emitted by Jupiter, these new-found facts tens and even hundreds of millions of miles away are none of them the kind of solid evidence that brings conviction to an open and thinking objective mind. Logical debacle still! Maybe the parts of the puzzle begin to fit together, maybe the evidence is of better quality than hearsay—maybe it's circumstantial evidence—but is that good enough?

It is, as far as Velikovsky's adherents are concerned—but it certainly is *not* for the astronomers who are even happy and ready and willing (and able?) to challenge his interpretations of the admittedly low-grade evidence. Where does that leave the rest of us, those who still stubbornly insist on making up our own minds on the basis of the best evidence that may be available? It leaves us still undecided—for the moment, anyway. It also leaves us still reading Analog—with baited brain ready to see what new light can be shed on the question by the dynamical evidence. So let's see what it *can* tell us, and what it *has* in fact told us that we should be considering, and finally what it *may yet* hold in store for us when we have made the measurements and the calculations that are needed.

First we must choose the right kind of question, right in the sense that those immutable and eternal laws of mechanics can properly be brought to bear. They do *not* speak to the radio emission activity of Jupiter, for example, nor tell us why or whether that planet consists of liquid hydrogen and helium as recently reported, nor do they attest to the existence and extent of the Earth's magnetosphere. All these phenomena are much affected by different laws, and our knowledge has been too meager to permit us even to suspect them before *in situ* measurements were carried out. But questions like the orbital motion of a planet moving around the Sun and even its rotation, these fall more squarely into the domain of mechanics.

Take the orbital motion—this is the one we can sink our teeth into most deeply. Let's see whose blood it draws.

What we know about Venus' present orbital motion is part of our given data, and it includes a generous supply of well-established, hard facts known with considerable precision. For instance, its mean distance from the Sun (108.26 million km), its mean orbital speed (35.04 km/s), its orbital period (224.7 days), its mass (0.813 Earth masses), permit us to specify such fundamentally important dynamical quantities as the *orbital energy* (3.0×10^{40} erg). We also know by direct observation that Venus' orbit is nearly circular. All of the planetary

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orbits are slightly elongated (taking the form of ellipses rather than the limiting circles corresponding to zero *eccentricity*). To say that Venus' orbit eccentricity is 0.0068 and the smallest of the entire Solar System tells us that Venus has a very *stable* orbit in the sense that it has already very nearly settled into the ultimate circular form toward which all orbits eventually decay.

Venus' inner neighbor, closer to the Sun, is Mercury. It rides a tighter orbit, is less perfectly circular than Venus and hence has greater excursions from its mean orbital distance (57.94 million km), but still keeps a healthy distance away from Venus. Our planet Earth is Venus' nearest outer neighbor, roughly fifty million kilometers apart at closest approach. Venus is thus well-isolated mechanically, and its orbital energy is not affected by Mercury or by Earth, or by any other body of the Solar System. It is a "constant," and an important one.

If Venus formerly moved in an orbit that permitted it to come into close proximity of the Earth, as Velikovsky contends it did less than 5,000 years ago, then we have an energy problem for Venus. The reason is that its orbital energy must then have been greater, far greater, than it now is. If we are to believe this was the case, we must explain how the excess energy was lost by the planet as it settled into its so-nearly circular orbit.

Energy lost by a planet as it moves into a tighter orbit around the Sun must be taken up by another body or bodies. A billiard ball moving at a good speed does not suddenly come to a halt (losing its kinetic energy of motion) unless it strikes another body (ball) that takes up the motion and carries away the energy of the first one. It's the same with planets—if Venus lost so much energy, then another body (planet, perhaps) must have taken it up upon impact and either still have it or have transferred it to still another body. Where did all that excess orbital energy go? Nobody knows. This is one of the major obstacles to the credibility of Velikovsky's theories.

Never at a loss for words, Velikovsky may suggest that another planet was there when it was needed and it was none other than Mars. That would mean the relatively recent Venus-Earth near encounter was not the last of the cataclysmic events of the celestial billiard game that ended a few thousand years ago. So the energy buck is passed to Mars—and again the question becomes how to explain Mars' settling into *its* orbit.

Energy Round—It's a Draw

Mars' orbit has an eccentricity of 0.093, much less circular than Venus' orbit, but still circular enough, *perhaps*, to rule out the kind of energy exchanges that would be needed to make

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Velikovsky's case. The question is a bit fuzzy on both sides, though, as there is no end to this kind of buck-passing when we cannot be sure what celestial debris might formerly have been out there where needed to save Velikovsky's theory. If the evidence for a different Earth orbit seems flimsy, for Mars it is even more so by a good bit: by comparison, we know next to nothing about the orbital history of Mars. So the energy test applied to Earth orbit runs afoul, and we cannot make a case in this way either for the truth or for the falsity of Velikovsky's hypotheses.

Orbit Eccentricity—A More Telling Test

Energy is the most basic dynamical quantity, but it is by no means the only orbital parameter affected by the laws of mechanics. Orbital energy specifies the mean distance of the planet from the Sun, has nothing to do with the elongation or flattening of the orbit that distinguishes it from circular form—measured by the *eccentricity* of the orbit. For two planetary orbits to intersect and create the possibility for collisions or close encounters, at least one of them must be noncircular. If the mean orbital distances differ from each other by a considerable amount, then a considerable flattening of the outer orbit must be present.

Hence we can conclude that a body expelled by distant Jupiter and passing close to the Earth must be traveling in a very flat, or highly eccentric, orbit. If that same body later became known as the planet Venus, with nearly *zero* eccentricity because of its highly circular orbit, then its orbit eccentricity must have decreased immensely. We can analyze this question by applying Newton's laws of motion, also.

Planetary Capture Theory

Capture theory is the term applied to describe orbit modifications as drastic as the word *capture* suggests. It is both dramatic-sounding and picturesque, but what, really, does it tell us? Writers who popularize astronomy get a good bit of mileage out of the cap-

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tivating (pun intended) concept of capture theory—they talk about it a good bit. In serious treatises, though, you can hardly find it mentioned at all. The reason, very simply, is that astronomers do not recognize any mechanism that produces quick capture in the ordinary sense of the word. Nobody suggests that our Moon was once a satellite of Mars and that Earth performed a sudden foray into Martian territory, bringing its "captive" back to serve as Man's best night-light.

American astronomer T.J.J. See performed an exhaustive study of stellar evolution in the beginning of our century, and wrote a most erudite and voluminous two-tomed magnum opus on the subject. He explains how planets mushing through a primeval dust cloud (the solar nebula) were continually bombarded by these particles and how the orbits were modified. An initially flat (eccentric) orbit *does* become more circular as it strikes dust particles while traveling around its orbit. He proves that this is true and also how quickly it happens—by calculations again based entirely on the same laws of Newtonian mechanics. He found that the process is a very slow one, requiring *billions* of years for any appreciable change to occur. The reason is partly the enormity of the mass of the planet compared with the miniscule mass of the dust particles: the mosquito struck by your speeding automobile does not slow you down very much! Even more important, though, is another peculiarity of planet-dust particle collisions, with respect to orbital eccentricity. This is the fact that in two quadrants of orbital motion, the effect will be to *decrease* eccentricity, but in the remaining two quadrants of each orbital cycle it will be to *increase* the eccentricity—and one very nearly cancels the other. The more nearly circular the orbit becomes, the slower is the circularizing effect.

Enter Celestial Electromechanics

But wait—that does not spell disaster for Velikovsky's hypotheses, because you "failed to consider" (as he likes to put it) at least one very important factor. Dr. Velikovsky tells you it is ELECTROMAGNETIC FORCES.

"Absurd," declare the astronomers and storm out slamming the door on further serious consideration of his ideas. They know that ever since Newton's times three centuries ago, planetary motions have been calculated considering *gravitational* forces only. These depend on the *masses* of the Sun, planets, et cetera, and have nothing whatever to do with chemical composition, temperature, age, color, magnetic field and/or electric charges—gravitational forces would be unchanged no matter how, whether, or what these other features may be or once have been.

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It is true, of course, that an electron, or any electrically charged body moving in a magnetic field experiences a force—the Lorentz Force—that is a perfectly valid means of modifying a mechanical motion, exactly as gravitational forces do. Newton thought only about gravitational forces, and we can hardly blame him for not emphasizing that such electromagnetic forces could conceivably also be important. He ignored them, probably thinking they are too small to be of any importance in determining planetary motions. He could have imagined both that the planets carry no electrical charge and that magnetic fields are totally absent. But he had no way of knowing.

We still have no way of knowing absolutely whether electrical charges are carried by the Sun and the planets. Velikovsky is convinced they do. Most astronomers think they don't. To this day we have not been able to prove the one or the other. It is interesting, though, that there have been other scientists for over 150 years who have toyed with the idea. Australian physicist V.A. Bailey began to suggest that there was good reason to believe in such charges as long ago as 1950. Stranger still, he estimated a charge on the Sun and found almost precisely the same value that American astronomer Menzel attributed to Velikovsky and ridiculed as preposterous.

Interplanetary Magnetic Fields

With regard to magnetic fields, Dr. Velikovsky was talking about them as physical realities of our Solar System and cosmos before we had any direct observational basis to know one way or the other. One of the biggest finds of the space research programs since 1957 has been to establish absolutely that they do indeed exist, probably everywhere! The search that led to their discovery was not prompted by Velikovsky's assertions, and it is therefore not surprising—or even fair—to blame them for giving him no credit for the idea.

Be that as it may, some of us may not yet be ready to let the matter rest there. Even if astronomers still ply their trade pretty well pretending that neither forces nor fields exist now or ever existed, is it not incumbent on us to consider the question more closely? If we are the honest searchers-after-truth that the rest of the world is told to believe we are, an honest and scholarly job requires us to make a few more calculations before jumping to any conclusions. Have we done so?

This writer could find no indication that we had checked out Velikovsky's story as fully as we should. That gentleman-scholar suggests that charges and fields nowadays are not necessarily just what they were even a few thousand years ago. In fact, there is good reason to believe otherwise:

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the Earth's magnetic dipole moment is altering even now at rates far in excess of what astronomers working on orbits would lead us to suspect. Having no ax to grind, quite as ready and willing to believe Velikovsky as not—if objective and honest calculations would only bear him out—I did just this.

It was for the International Symposium held at McMaster University in Canada in June 1974 that the study of electromagnetic effects on Venus' orbit eccentricity was carried out. The symposium theme was "Velikovsky and the Recent History of the Solar System," and it was sponsored by the Student Academic Freedom Forum. It was my second effort aimed at putting Velikovsky's ideas to the test of physical theory in the manner he had been asking.

The earlier one, in February 1974, at the annual meeting of the American Association for the Advancement of Science, had dealt with electric charges and the Earth's rotation. Dr. Velikovsky claims that the Earth's rotation was actually interrupted to give a literal truth to Joshua's account of how the "Sun and Moon stood still in heaven . . ." We reported some curious connections between rotational and electrical energies, but hardly sufficient to justify a categorical conclusion either for or against Velikovsky. The calculation was done at his personal behest, but he was not satisfied with the result because it was based only on *electrostatic* arguments that introduced Coulomb forces.

In order to oblige, not having definite data with which to work, it was necessary to make a number of assumptions. In every case these were made in the manner that would be the most favorable to establish that Venus' orbit changed from highly elliptic to almost perfectly circular in a period of time not in excess of 1,500 years (this period itself was taken at his suggestion).

Capture theory was broken down to its basic ideas and then reconstructed for an imaginary magnetic field—shaped like a four-leaf clover—that was just the form required to assure a continual action to *decrease* the orbit eccentricity in all parts of every orbital cycle. The mass of Venus was taken to be what we now know it to be. The electric charge assigned is far greater than anyone believes to be possible now, but perhaps (for reasons not understood by us) once long ago possible. This would be needed to deflect the super-freight-train of a massive planet careening through the special favorable magnetic field configuration. The question then boiled down to this: How long would it take for that field, acting steadily on the planet of that mass, carrying that charge, to circularize a highly elliptic orbit? It's a straightforward calculation, and a

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particular value of the time was found. What was it?

It was not 1,500 years or less, but very far from it. It was in excess, greatly in excess—by a factor of billions—and simply could not be taken as substantiating Velikovsky's account. That does not prove he is wrong, only that the mechanism assumed was grossly inadequate to explain the effects he claims. Maybe there are other effects that could explain it, but we don't know what they are.

Dr. Velikovsky lost no time after the presentation to take the podium and tell the audience that he "failed to consider" no fewer than three different effects that could explain the non-success of the calculation. I heard his words and think I know what they mean one by one, but in aggregate as a means to "save" his theory, I must admit I simply do not understand how it can be done.

That's not the last word to be said by any means, however.

Other Voices, Too

Other assessments and criticisms go back to the appearance of Velikovsky's book *Worlds in Collision* in 1950 and even slightly before. Then it was primarily the academic astronomers and they were enraged. CAPTIOUS criticism is calculated to entangle, disposed to find fault, caviling, hypercritical fault-finding and carping. Maybe

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March 1975

Place	Title	Author	Points
1	.... Lifeboat (Pt. 2)	*Gordon R. Dickson* and *Harry Harrison*	1.98
2	.... Child of All Ages	*P.J. Plauger*	2.43
3	.... Jill the Giant-Killer	*William Tuning* and *Ewing Edgar*	2.65
4	.... Building Block	*Sonya Dorman*	3.77
5	.... Mail Supremacy	*Hayford Peirce*	4.08

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they were the champions of mediocrity responding to genius in the time-honored manner, and maybe not—but captious they were, to put it mildly. These are the ones who say, "If I don't know it, it's probably not true or worth knowing; if I haven't thought of it, it can't be worth much; if you can't prove it to me in my terms, you are wasting my time." They are mostly gone now, but their spirit lingers on. Their academic descendants are the modern smart-aleck types who feel so smugly superior with each new measurement they read—but are still largely devoid of original thought or imagination.

What of the new generation of academic scientists? Are none of them seeing what may be learned from Dr. Velikovsky's multidisciplinary researches? Yes, there are a good number of seemingly open-minded new-generation scientists coming onto the scene.

Dr. Robert Bass of Brigham Young University, a physicist-astronomer-mathematician, has been taking a hard look at the traditional "uniformitarian" argument that insists nothing drastic has happened on a cosmic scale for some billions of years in our Solar System. He reports computer studies showing that orbits are certainly *not* so stable as we've been told—and suggesting that Velikovsky's script might indeed be historically accurate.

Then there is Dr. David Morrison of the Institute for Astronomy of the University of Hawaii. He does *not* address the question of possibility, nor even ask *how* or *why*, but actually *whether* Velikovsky's events might have taken place. He looks at other types of physical evidence gleaned from space probe findings in programs in which he is deeply involved. These are *cosmochemical* considerations, considering chemical compositions as we now know them, for Venus and Jupiter; *thermal* considerations relating to internal stresses, tidal energy dissipation, and a study of *surface* features. He speaks for planetary astronomy, mid 1970's. He takes astronomically testable predictions other than those involving mechanics as given by Velikovsky. He concludes that there is no compelling astronomical evidence in favor of Velikovsky's expectations, but quite the contrary.

Others still remain to be heard from.

At this moment, at any rate, the box scores look like this, in blunt yes-no-maybe terms:

1. Classical mechanics plus electric charges: MAYBE
2. Classical mechanics and electromagnetic fields: NO
3. Orbital stability mathematics: MAYBE
4. Planetary science programs: NO

The GOOD NEWS for Dr. Velikovsky is not here yet. ■

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BARBARA BARTHOLOMEW

Someday in the future, our time will be "the good old days."

wheel of fire

KELLY FREAS

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You do me wrong to take me out o' the grave: Thou art a soul in bliss; but I am bound upon a wheel of fire, that mine own tears Do scald like molten lead.

King Lear, Act IV, Scene VII.

Shan didn't know quite why he'd chosen Elizabethan England. The color, the pageantry, like a grand old-fashioned costumed movie extravaganza, he supposed. Anyway, it was an exciting time.

He hadn't really wanted to take the trip at all. But Charm had insisted. "You've been working too hard," she told him. "A little change of pace will be good for you."

He had protested that they really couldn't afford it, not right now. Jana, their older daughter, was scheduled for the standard corrective surgery to regularize her features that was becoming so common these days. They couldn't afford that either, but then it was necessary.

"I don't want her to grow up like me," Charm had insisted. "Always self-conscious because her nose isn't just right."

Shan had looked thoughtfully at the debated spot. "I like your nose the way it is," he insisted. "There's nothing wrong with your nose."

Charm brushed the remark aside. "All children Jana's age are having these little corrections made these days. You wouldn't want her to be the only one that didn't."

"No, of course not," he admitted, though still with a vague feeling of reluctance. "Has she selected the pattern she wants yet?"

"I think so," Charm laughed. "But you know girls her age. She changes her mind at least once a week."

Shan didn't find this at all amusing. "You'd better remind her that once it's done, that's it. We can't afford to pay for two corrections."

"All right," Charm soothed gently. "But now, back to the subject of your trip. Have you decided where you'd like to go?"

"I haven't even decided if I'm going," Shan answered grumpily, debating in his mind whether he preferred later Henry VIII or early Elizabeth for timing. "We really can't afford it," he told her again.

For a moment, he was afraid that she was going to give in. "Perhaps not," she said. "But neither can we afford all those hours in therapy that you're going to need if you go on like this."

He decided not to push it any farther. "If you really think so," he agreed.

"Besides," she added the clincher, "they're having a special this week."

The guide at the historical society explained it to him. "It's hardly over cost," he said, waving one hand to indicate the vast building that now housed the society. "All that equipment and expertise

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required to operate the system!" He shook his head. "But mostly it's used only by intellectual specialists. We'd like to have more of our average citizens participating, like yourself."

Shan wasn't sure that he liked being average, but he didn't argue. As long as the price was right.

"I don't know much about this sort of thing," he began to feel a bit uneasy as they walked down into a room filled with the blinking lights of a massive computer. He turned around looking at the dull gray of the machine's components.

"It doesn't look like much." He was vaguely disappointed. "Just like any business office."

His guide chuckled. "Don't worry," he said. "It'll do the job all right. It'll shoot you right back into the past."

"Are you certain the process is safe?" Shan asked even though he'd already been reassured during the preliminaries.

"Perfectly safe," he was told. "If the host body should be injured or killed, the system is designed to react to this as a signal to draw you back into the present. He can be hurt but you will not be."

"I see," Shan said.

More details were given, but sketchily, as befitted his status as an amateur, a pleasure tripper.

"Your mind will home in on some inhabitant of the era you have chosen, someone close to your own intellectual capacity and ability. You will occupy his being simultaneously with his own existence. We can't have a bunch of extra bodies floating around in the Sixteenth Century, so we borrow one for you. Just temporarily, of course."

Shan had already a vague idea of the way it worked. No secret was made of the whole thing. But still the idea was slightly disturbing. "What about my body?" He looked down at his hands. "What's it going to be doing in the meantime?"

The man pointed at a narrow couch, adjacent to the computer. "Your body will be resting," he explained. "You will appear to be merely sleeping, though actually, your consciousness will have departed. But the computer will continue all the motor functions for you. That's one of the advantages of the whole experience. When you reoccupy your own body, you will find it revitalized by the rest. Your mind will be rejuvenated by a vacation without physical cost."

Shan nodded his head to show that he understood. "But what about the person that I'm occupying. Won't he be disturbed by my presence?"

The guide put his hands down on the desk, palms down in an emphatic manner. "He won't know anything about it, won't even have an inkling of what's going on."

"I see," Shan searched wildly for a moment, trying to think of any other information he might need

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later, but found nothing. He felt terribly unprepared but, "I'm ready then," he said quietly, showing none of the unease he felt.

The guide pushed a button on the desk. "The main thing to remember is just to relax and enjoy the experience," he said. "There's nothing to be frightened about. Anytime you decide that you've had enough, all you have to do is will it strongly and you will return immediately. Otherwise you will spend twenty-four hours in Sixteenth Century England as arranged."

Two technicians, evidently summoned by the button the guide had pressed, entered the room then. With businesslike efficiency, they prepared Shan. A drug was administered in a shot; he was told to lie down on the cot the guide had previously pointed out, and then he was wired to the computer.

It felt more than a little strange, lying there while they worked on him as impersonally as if he were an actual part of the machine. But within seconds, the drug began to take effect, and he felt himself drifting pleasantly.

He never actually lost his awareness, however, though for a few seconds it shifted to a dreamlike quality. The actual transition was difficult to pinpoint. He was rushing through an eternity of empty space, then moving as if down a long, long corridor with flashing colored lights all along both sides. He wondered if those were the lights on the computer.

Then, with nothing more than a slight jar, he landed.

He knew as if it was something he'd always known, who he was. He was John Williams, yeoman of Surrey, and his back ached from working in the fields from earliest morn until sunset. But then his back always hurt and he hardly gave the discomfort more than a passing thought.

He was still fully Shan, but somehow he was part John too. The duality of his position was bewildering. That he could know that he was Shan and still feel, as real as anything, the solid and slightly damp earth under John's feet. It had been a raw, nasty spring.

It was evening now and he was walking to the village where his home was, returning from the field he worked, which lay a short distance from the village. He was tired and hungry and walked a little faster at the thought of the hot food that Matilda would be preparing for him.

Shan could feel John's hunger and his weariness but through John's eyes he could also see things that John could not see. As Shan in the Twenty-first Century, he'd never visited the area that had once been England, but he was well enough informed to know that what he was seeing now along this country road was entirely different in his own present.

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The spring had been raw but it had shown a certain beauty too. The tiny sprouts of leaves, the small rare white of a blooming flower, strange in species to his eyes, all breathed a clear and deliciously pure air.

And there was space around, undisturbed by motor or air machines. The only noise came from the occasional cow, mooing that milking time was near, or the heavy sound of his own feet in their awkward boots.

To Shan it was a strange world. To John it was all there was or ever had been.

Matilda was too busy with her steaming pots to welcome him at the door, but their two little daughters bounced on him the minute he walked inside.

John smiled and patted and listened with half an ear, speaking first to his wife.

"More than half the plowing is behind me now," he spoke almost gruffly, without formal greeting, but as Shan knew from his inside view, with affection. "A fortnight of fair weather and the planting will soon be done." Even as he spoke, he watched her, anxious as always as to whether she'd had a good day or if she'd coughed much. It had been a bad winter, with much sickness abroad, and the spring was still not warm enough to offer her real protection.

"The work moves ahead full well." His wife smiled wearily at him, glancing up from the pot she was stirring. "God be praised who has given us these pleasant days after so many dismal ones." Again she smiled at him, tenderly this time. "And thanks be to you too, Husband, for you labor long and hard for us."

She looked tired, he told himself, as he settled down with the children for a little play before their mother served the evening meal. His right shoulder was beginning to ache as well as his back, and absently he rubbed it with one hand.

The language in which John thought and spoke was almost a foreign one to Shan, removed from him by almost five centuries. English, as it was still called, had changed greatly. But he had all of John's memory to build on and soon it was hardly necessary to translate the thoughts into his modern tongue. He was thinking Sixteenth Century.

It was odd how it could all be both so strange and so familiar. Charm had once worn a costume from this century to a costume party, but there was little in common between the ruffled, bejeweled gown his companion had worn, and the simple yet graceful garment that Matilda was wearing.

And he realized that the woman herself lent the dress its grace. She was slender and worn, though not more than twenty-two, and he looked at her with the feeling that was in John's heart.

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"Come now." Matilda moved the few dishes to their little table. "Let us set ourselves down before the food grows stone cold."

Shan was repelled at the idea of consuming meat, something he'd never done in all his life. Vegetables, soy products and synthetics, all refined to culinary excellence, were the familiar items of his diet.

But he had no choice but to accept the meal which Matilda had prepared for John and the two little girls. And it really wasn't too bad.

" 'Tis the best cook in these parts that you've become," John told his wife, eating heartily.

She looked at him with wide-open eyes. "Pray, Husband, I hope it may be so. In all ways, I wish to be a good wife to you."

It was difficult to know what to say to that. The intensity of Matilda's nature was a complex thing for John to deal with. "By my troth, you do well," he spoke awkwardly. It was difficult for him to praise her, even knowing as he did how much she was in need of such words from him.

"If fact that be, it is one that your mother would dispute." It was the old argument. "Methinks she would have sorrowed less to see you in your grave than when wed to me."

The little girls were watching them silently.

"You make too much of a thing long past," he told her gently. "I have no doubt that time has much revised her feelings toward you."

"That long it has not been," she almost whispered the words. Picking up the younger of the two children, still almost a baby, she rocked her back and forth with the motion of her body, seeming to derive comfort from the movement.

It was true enough and there was not much he could say to her. She knew as well as he that not only his mother but the whole of his family had opposed his marriage. She was too frail, they'd told him, too delicate to be wife and mother. He'd need a different kind of woman to give him a good life, they'd said.

In a way it was true enough, but still he would not have changed things. He could imagine no other wife than Matilda. It was as if they had been chosen as mates by God. John believed that.

Shan, who believed in little and could well imagine other women in Charm's place, felt a little envious. It all seemed so uncomplicated compared to the businesslike relationship that existed between Charm and himself.

John watched now as Matilda shivered in the little room. He was afraid that she was going to be ill again, but tried to hide the fear, knowing that each time she felt that she had let him down anew. As if she were responsible for the body with which her spirit had been endowed!

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"The chill of winter lingers with us yet," he said. "Tonight we need a fire." He was expert in such matters and soon the four of them were huddled close around its warmth.

At bedtime Shan felt shut in by the closeness of all those people around him. Certainly in a world where housing was at a premium, there weren't many square feet per person, but he was accustomed to his privacy. Each member of his family had his or her own cubicle. Indeed, he would have been embarrassed to have slept like this family, all together in one room. But then, though he'd not thought of it previously, they were probably quite poor.

But they seemed to think nothing of the arrangement, John and Matilda waiting only until the children were asleep to make love to each other.

Soon they slept but Shan could not. His mind, tired by the exertions of John's body, physical stresses far beyond those which he normally incurred, was still keyed to a high pitch. After all, it was not a common thing to rest like this within another's body. At least not in his experience, he amended the idea, thinking of those scholars who undoubtedly did that very thing frequently in the pursuit of knowledge.

He wondered, however, if any clinical-minded student could feel as involved as he already did with this family, the members of which had died long before he was born. He wondered casually what Charm and their children were doing. It didn't seem too important. They were too far away.

Finally, he too slept.

Matilda awakened them even though she was trying not to. She was huddling into the quilts she'd made herself, shaking violently.

"The fever has stricken you again," John accused, stumbling to his feet.

"It would seem so," she replied dully, as if he'd charged her with some crime. "For these few days, a burning has been in my breast and now it seems to spread its poison throughout the whole of my being." They spoke in low voices to avoid disturbing the children.

John reached out one hand to touch her forehead. It felt hot. But that could be deceptive, and he laid his lips against her forehead. There was no doubt that her fever was high. They stayed like that for a moment, turning the gesture into a caress.

But she was trembling in his arms and he laid her back down on the bed. She reached for the covers for protection against the cold that was invading her body.

"By my faith, that's too much!" he insisted gently, pulling all but one of the quilts off her. "'Tis the fever that makes you feel the cold so and for that all these wrappings

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will do more harm than good."

It was a torture to her, but he washed her all over with cool water, frightened at the burning heat her body was emitting. He touched her again afterwards and thought she felt a little cooler.

"Father?" He realized that the older of his two daughters was sitting up, looking at him with the solemn eyes that both children had inherited from their mother. "Has the sickness come upon my mother again?"

"Aye, that it has done," he told her heavily, walking over to pull her covering back around her. "But I am caring for her. And it is back to sleep you must go, my little love."

Obediently she lay back down, but he could feel her eyes continuing to watch him. They were too quiet, his children, not at all like the rowdy, noisy lad he remembered himself as being.

He touched Matilda again and was alarmed that she seemed to be as hot again as before he'd sponged her.

"You'd best go for your mother," she whispered to him. "The dawn will soon be coming and you must be about your work. And there must be someone to look after the children."

John was a practical man and under no illusions about the importance of his work. Without a successful planting, they would all starve or close to it. But he knew too how much she hated being forced to ask his family for help. If only she'd had family left of her own, maybe it would have been different. But, as it was, she would prefer that nobody else even knew she was sick.

"I'll wait a while longer yet," he comforted her. "In hope that you will soon be better."

Weakly she nodded her head, looking at him with thoughtful eyes. "It is a good wife that I have strived to be for you." She seemed to feel called upon to defend herself. "But now it is all too readily apparent that all the others were right. In everything they said of me, they were right."

He shook his head at her, trying to deny the truth of her words, but he couldn't tell if she saw before falling asleep. He touched one hand to her lips gently, then sat watching her. He didn't know when he too fell asleep.

He was awakened by the sound of the younger child's whimpering. He pulled himself from the cramped position he'd slumped into, sitting up abruptly. Both the little girls were awake, huddled together, and it was full day, long past the hour when he usually left for his field.

"Wait but a moment," he tried to sound cheerful for the sake of the babes, "and I will prepare something for you to eat." But first he touched Matilda's face, hoping that while they slept the fever had

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left her. But her skin was still burning.

He put milk and bread before the children, then sponged his wife again. She murmured and tossed in her sleep but did not awaken.

She did not wake up again. Later in the day, she talked wildly, her eyes open and staring, but she was never lucid, just delirious with the fever. By then he was no longer alone. Kindly neighbors had taken the children to their own home, and his mother and sisters had been summoned. But it didn't matter now, Matilda wasn't conscious to feel that once more she had failed him.

No one in the village knew more about healing the sick than his mother, but she shook her head over his wife. "From the first you knew that there was little strength within her," she told him, avoiding his eyes.

"But she has been like this again and again," he protested, "always before she has recovered with time." But he knew inwardly that his mother was right and that this sickness was different somehow.

It was a long day and there was little that any of them could do but watch the hours pass. John sat grimly by her bed, saying little to anyone.

Shan, who was the only person who knew the desolation the other man was feeling, could only be glad when his twenty-four hours ended. He felt the first faint tuggings, then a swoop of power as he was suctioned back, whirling again along the corridor of lights. Then he was lying on the cot in the room of the machines.

He waited in silence while they disconnected him. The technicians didn't seem particularly interested in him. They were just doing a job. But by the time he was freed from his electrical fetters, the guide was back in the room.

He was practically bubbling with an enthusiasm that could have been genuine or part of his job. "Now wasn't that a worthwhile experience? The only way to study history, I always say." Then as Shan followed him silently, without commenting, he pushed a little. "Well, what did you think of it?"

Shan still felt a dreamlike quality of unreality. He had adjusted almost too well to John's body and his life.

"It wasn't quite what I expected," he finally said.

The guide frowned, taking this as criticism.

"What do you mean?" he asked.

Shan stared ahead thoughtfully. "I chose the time I did," he explained, "because of the people who lived, the events that happened then. But the man I inhabited had no more than heard of his queen, he couldn't read at all, never saw one of Shakespeare's plays and wasn't terribly interested in the development of the New World."

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The guide seemed a little embarrassed. "That is a risk we take," he said. "Perhaps you'll have better luck next time."

"I wasn't complaining," Shan discovered aloud. "But I don't think there will be another time for me."

He took the public motor home. He tried to remind himself that it was John's life he'd been living, but couldn't quite rid himself of the ache that Matilda's dying had instilled. They'd all known that she was dying, he and John and all the people who'd hovered around. But he was glad that he hadn't had to witness her death.

He had lived briefly another man's life and knew beyond a doubt that it was a burden he would never willingly assume again. He wondered if it would hurt any more to watch Charm die than it had there in that hut watching Matilda through John's eyes. He doubted it. Somehow he and Charm were more remote.

It was almost with a shock of strangeness that he returned Charm's greeting. "How was it?" she almost repeated the guide's words. "What did you think of your trip?"

"It was all right," he told her, saying all the words that were required before he could escape to his own cubicle where he could sort things out by himself.

"You haven't asked about the children," she reminded him.

"How are the children?" he asked dutifully, wondering what had happened to John's little girls after their mother died.

"They're fine," Charm told him.

"That's good," he nodded appropriately. It seemed a good time to escape. "I think I'll go rest for a while."

"That's a good idea." She smiled. Then she looked at him, shaking her head wonderingly at his experiences. "Isn't it amazing what modern science can accomplish? It only makes you wonder what they will do next."

The idea hadn't occurred to Shan before.

He took it with him to his cubicle, worrying it with his mind. If the historical society had been able to send him back to John, then at least that much could be done in the future. Maybe even to him.

Methodically, he took off the clothing that he'd worn for the last twenty-four hours, lying down when he finished but finding himself unable to rest.

He wondered if he'd ever feel really alone again. ■

CLARION SF-WRITERS' WORKSHOP

will be held this year at Michigan State University from June 29 through August 9. Writers-in-residence will be Samuel Delany, Gene Wolfe, Roger Zelazny, Joe Haldeman, Kate Wilhelm and Damon Knight. For information and application forms, write immediately to Dr. Leonard Isaacs, Justin Morrill College, Michigan State University, East Lansing, Michigan 48824.

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JAMES GUNN fault

A catastrophe is made of three elements: a natural cataclysm, a human population in its path, and a bad decision.

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The second time they made love during that long night the girl cried out. Later, as his breathing quieted and the sweat dried upon his body, he lay beside her, smoking a cigarette, not seeing the smoke but only the glow of the tip as he drew upon it, and his troubles returned. He pushed them away and asked why she cried out. He wanted her to know that he did not regard her only as a faceless female he had selected by chance from off the street with whom he coupled without affection or concern. But also, he knew, he wanted to glory another moment in his masculinity, in his ability to bring an inexperienced girl to passion and repletion.

"Didn't you feel the earth move?" she asked.

He laughed at the incongruity and his own deflation, and felt her stiffen. "You think I'm silly," she said sulkily.

"I'm sorry," he said, and put his hand on her slender thigh, once cool and mysterious under a short, pale blue, silken skirt and now as familiar as his own. "It was—it reminded me of an old book, that's all."

He swung his legs over the edge of the bed and went to the window and stood looking out over the lights of San Francisco. Union Square loomed gray and formless below, like a fortune teller's clouded ball. He peered into it, willing it to clear, to allow him to see, if only a few days or weeks, into the future. It would be foggy today, he thought. That's what they needed most on this kind of day, he thought bitterly—fog.

"Why did you come with me?" he asked.

"The money," she said.

She was still sulking, he thought, and he remembered the chance events that had brought them together.

He had not wanted to go home with his problem, with the decision he had to make. He had been exhilarated with the feeling of power, as if he himself were in control of great natural events, and at the same time oppressed by a foreboding of disaster or, at the very least, of incredible difficulties in the days ahead.

He had walked from City Hall down Market Street, past the porno movie houses and the Palace Hotel, clear to the Embarcadero, down the Embarcadero, looking out over the bay, smelling the salt air, feeling the leather soles of his shoes abrading themselves against the sidewalk, to Broadway, past the sex shops and the little bars and the outdoor cafes and the sado-masochism movies and the girlie bars which advertised live sex acts on their stages. One barker almost dragged him into a bar by his arm before the barker recognized him and let him go, muttering an apology.

His town, Alonzo had thought, and then, more defiantly, *his town!*

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Sinful maybe. Degenerate maybe. But frank and free and brave and bold most certainly, and he was going to save it. If he only knew how.

He had turned and walked up Grant Street, crowded with tourists, white faces standing out among the yellow, looking at the painted buildings and the bric-a-brac and strange foods in the windows, smiling at the music of Chinese spoken by older citizens, smelling the strange foods. Alonzo had found himself studying the construction of the buildings like a termite inspector, thinking, this building or this will be the first to crumple, the first to flash into flame.

Finally he had come to Union Square. First he had noticed the crowd that was gathered around the figure of a man who stood above it, a white-haired, white-bearded old man in a long, brown robe, who had shouted, "The world is coming to an end, sinners! Repent! Repent!"

Someone in the crowd shouted, "Tell 'em, Grandpa!"

"Get thee from this town of Sodom and Gomorrah! The hand of the Lord is descending upon this sinful city!"

"Hallelujah, brother!"

"In the book of prophecy it is written that the Earth itself will tremble and fire will walk upon the land and burn upon the sea. Now even atheistic science confirms the prophets: California will be shaken from top to bottom, Los Angeles will go, San Francisco will go, Oakland and Berkeley will go, shaken into the sea."

"Gosh, Grandpa, I thought you said the whole world."

"It will seem like the whole world to thee, sinner. Get thee to the hilltops! Confess thy sins! Become one with the Lord! Repent! Be born again!"

"Where we gonna find this hilltop?"

"Go to the East! Leave this doomed city behind, leave the lechers and defilers to die with the city. Pass by the other cities of the bay! They also will die. Proceed until you reach the hills and safety where you may walk with God and together watch this place go to the perdition it deserves."

Alonzo looked around at the crowd. It was a mixed group, a polyglot group, a multi-hued, multi-garbed, many-aged slice of San Francisco. On most of the faces he could see were looks of amusement or inattention. Bottles of whiskey and wine were openly displayed or passed around. Cigarettes, cigars, and pot were being smoked. One young man was sniffing something out of what looked like a tiny, silver saxophone. Huddled on the pavement at one end of a bench was a child who could not have been more than eleven mainlining something . . .

Alonzo flipped his cigarette far out the window toward the square and turned back toward the girl.

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"That was a little quake," he said. "What geologists call a premonitory effect. You've felt them before."

"That's what I meant," she said, still pouting, hugging the sheet around her throat.

She looked very attractive and vulnerable at that moment, and Alonzo's mood lightened. "Come on," he said. "Let's take a shower! Wake us up!"

The shower was small, but even in close contact the girl did not get into the playfulness of the occasion. She only huddled in a corner letting the water fall upon her. As they toweled themselves afterwards, Alonzo looked into the mirror blurred with steam, and he leaned forward and wiped it partially clear with his towel until he could see his own bemused face peering out at him as if from a great distance and he could almost hear himself saying, "You make it sound very easy, gentlemen, but it isn't. The consequences of what you ask will be staggering."

The scientist who seemed to be the spokesman for the others, the round-faced one named Parsons, said, "We know the consequences of refusing to act. Five hundred people were killed in San Francisco on the first day of the 1906 temblor—"

"The fire did the damage," Alonzo said automatically.

Parsons' eyes looked at him as if he were a delinquent student, and Parsons' voice was cold and precise. "The quake did enough, and it caused the fire. The relatively small 1971 San Fernando quake caused half a billion dollars damage to Los Angeles, killed sixty-four people, injured twenty-five hundred. Ten thousand people died in Managua in 1972, and some seventy-five percent of the city's buildings were damaged or destroyed. The Tokyo earthquake of 1923 killed more than one hundred thousand persons. Just think what another 1906 disaster would do to your city."

"I'm thinking what an evacuation would do to my city. And you say there is one chance in five. . . ."

"In the next two weeks. We admit that the science of earthquake prediction is still new. Within a few years we hope to get it up to the level of accuracy of weather prediction. We're refining our equations and getting new tiltmeter and creepmeter readings, pressure wave and shear wave readings, all the—"

"What if we ride out this two-week period?" Alonzo said, looking around the long, dark table at the somber faces of the scientists. They reminded him of soothsayers urging the right course of action on a king. "What if we wait until you're more certain?"

Parsons frowned. "We've discharged our responsibilities. You're the only one who can order evacuation. It's your decision now."

When Alonzo came out of the

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bathroom the girl was sitting on the edge of the bed looking thin and unhappy. Alonzo sat down beside her and put his arm around her and kissed her. As he drew her down to the bed, she said, "Do we have to do it again?"

"It'll be better this time," he said. But it wasn't.

He remembered how he had seen her—he had almost knocked her down as he turned abruptly away—at the edge of the crowd in Union Square. She was slender and pale and young—perhaps twelve, he thought first, and then revised his estimate to fourteen or fifteen. He had caught her by her thin shoulders to keep her from falling, and laughed and apologized for his clumsiness while he thought how pretty she was—like a pretty child—with her long dark hair and her blue eyes and her smooth, unformed face.

She laughed, too, and said, "That's all right," in a childish soprano but with a quick, precocious sophistication.

"You're beautiful," he said, and heard the words as if a stranger had said them. He clamped his lips tightly on other words such as "I love you," although, indeed, he did: he loved her for being young and for being beautiful. So much in this world was old and sordid and ugly and difficult.

"You're kidding me," she said. But she turned her head and looked up at him as if she liked it.

She seemed to be alone. He knew she was not a tourist because she wore no sweater or jacket. Only natives found temperatures in the low sixties comfortable without wraps.

He heard himself saying, "I'm going to get a hotel room over there. Would you like to share it with me?" And he tried to look unconcerned, as if he did this every day, while he wondered why he had said it and what she would say. What were the chances that she would call a cop? Ten to one? It seemed to be a day for decisions.

"How much?" she said.

That wasn't one of the responses he had anticipated. "A hundred?"

She looked at him fully for the first time, from his shoes to his face, almost insolently, and said, "Why not?"

Afterwards, in the room, as the girl lay on her side of the bed and he lay on his, he said, "Why did you come with me?"

"The money," she said.

He knew it wasn't the real reason, but he let it go. More important was why he had asked her, why a married man with a loving wife and two children, a man of position and respectability who had never done anything like this before, had scarcely even thought of it, had taken a young girl to a hotel room and engaged all night in a kind of sexual gymnastics he would have thought impossible. He had not even had a drink.

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Perhaps it was the weight of a decision he had yet to make. Maybe it was the psychology of disaster; people who live on the side of an active volcano or on top of a major fault don't give a damn about consequences: they're ready for anything. What was he going to do? Was it better to do nothing, to let come what will come? Or should he act and take the responsibility for the upheaval of nearly a million lives, the death of some, the certain injury of many, the privations of all, on a—on a witch doctor's hunch, on the word of augurers stirring the entrails of a dead chicken . . . Scientists had no pipeline to the future; at best they had an imperfect forecasting device called the scientific method.

He probed gently at his conscience and felt no guilt. Perhaps that was the way the peasants felt on the slopes of Vesuvius. When you may die tomorrow, today's small sins are inconsequential unless you believe strongly in damnation. He had never sinned greatly; he had never dared to sin magnificently even in his dreams.

Who had he hurt? Not his wife, for he felt no less love for her than he had felt before. Perhaps the girl, or her family, whoever they were. But how was this different from some frantic coupling in a musty barn or a dusty attic with a fumbling youth her own age? Girls did not remain virgins long these days.

Perhaps it was all true, but he also knew it was all sophistry. He had seduced this girl, though gently and not without concern for her, but in love, if at all, not with her but with the things she was: young, beautiful, inexperienced . . . He had used her as an object. He did not know her name. He did not want to know her name.

Perhaps the prophet was right, and they were all sinners and this was their Sodom and their Gomorrah, and they would all be destroyed tomorrow by fire from heaven—or from below.

He thought of all the unspeakable sins going on throughout this lovely, lovable, libertine city of his, and it did not comfort him. He was like the Puritans, he thought, with their stern sense of right and wrong which didn't keep them from sinning, only from enjoying it.

He had not thought himself capable of what he had done tonight. Clearly there was a buried fault within himself which had chosen this moment to shake the foundations of his self-knowledge. Now he was here on the slopes of Vesuvius with his decision still unmade, but he had made himself feel real for a moment by returning to the primitive.

"There sure wasn't anything else," the girl said.

For a moment Alonzo didn't know what she was talking about and then he realized that she hadn't come with him for the money, that she had expected

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something else, some secret excitement, some ultimate fulfillment.

"You've got a right to be disappointed," he said. "Listen. I'm going to leave now, but you can stay here as long as you like. You have a family in San Francisco, right?"

"Yes."

"When you go home tell them—tell them you met a city official on the street and he told you—he told you to get out of San Francisco before noon. That there's going to be an announcement at noon. San Francisco is being evacuated. Some people won't want to leave. Some will want to get out first. There's going to be the biggest traffic jam, the most trouble, the most danger, that anybody has seen since 1906. Those who get out before noon are going to be the lucky ones."

He had come to a decision. He didn't know whether history would prove it to be the right one, but it was the only one.

"Yeah," she said skeptically.

"Believe me," Alonzo said earnestly. "It's the best thing I can do for you."

In the dark, by the light of the window beginning to gray with dawn, he got back into his clothes. He peered into his billfold and pulled out five bills. "Much more valuable than this hundred dollars," he said, putting the money on the bureau. But she was asleep.

After he had paid the bill to a sleepy night clerk at the desk, he stopped at a pay telephone in the lobby. "Hello, Joan?" he said.

"Where have you been?" a woman's voice complained. "I kept calling City Hall, and they kept saying you weren't there."

"I had to get out and walk."

"All night?"

"So I got drunk. Satisfied? That's all unimportant. Listen! I want you to pack the station wagon for a trip—you and the kids. You're going to go visit your parents. I want you on your way to Utah by nine."

"Why?"

"For once don't ask any questions. San Francisco is being evacuated beginning at noon, and I want you out of here." He hung up the telephone and then immediately called again. "Look, I'm sorry. Don't tell anybody, but scientists have predicted a major earthquake will hit us within the next two weeks."

"Oh," she said.

"I love you," he said. He was glad he said it and glad he meant it.

"Me, too," she said.

The telephone clicked as she hung up. He stood in the telephone booth for a moment and felt absently in the coin return slot. It was empty.

He walked out into the chill gray of morning. It was foggy, all right.

The announcement came at noon. Alonzo stared without expression at the television set in his office as a news announcer said,

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"Before the news, Mayor John Alonzo has a message of major importance for citizens of San Francisco and surrounding areas. The message was taped just an hour ago in his office . . ."

Alonzo wondered briefly if the girl were watching, if she would identify him, if she would accuse him to her friends, to the authorities, what he would have to pay for a moment's impulse . . . and what was left of his religious training reveled in the reflection that he would be punished. But if she had done as he had urged her to do she would not have seen him . . . The wages of virtue, he thought.

". . . that the science of earthquake prediction is in its infancy," his image on the screen was saying to him, "but we cannot ignore the advice of experienced, qualified scientists who warn us that the chances—I repeat, the chances—of a major, 1906-type earthquake are significant. Therefore, in consultation with the county and city governments which have jurisdiction over other communities which lie along the San Andreas Fault or which will be directly affected by what we do in San Francisco, and in consultation with state and federal authorities, I have ordered martial law in this city and the beginning of an evacuation which should leave San Francisco empty within forty-eight hours, with the exception of essential government services—key city and county officials, police, firemen, and the National Guard . . ."

His announcement was followed by some additional justification and then detailed instructions for an orderly evacuation, with the city divided area by area and then street by street; routes to bridges, interstate highways, and public transportation—buses and trains had been massed at terminals, and citizens were urged to use public transportation whenever possible. Lists followed: essentials to be carried along, things to be done before the homeowner left his premises, locations considered safely beyond the area of devastation, public accommodations, available camp grounds, medical stations, gasoline suppliers on evacuation routes, ambulance and ambulance substitutes and ambulance trains for the hospitalized, recommendations from the US Geological Survey and the Office of Emergency Preparedness . . .

And for those who might refuse to leave, the curious, the fatalists, the revelers, the looters: electricity and gas would be cut off at noon the following day, water to everything except the fire mains twenty-four hours later. The National Guard had orders to shoot looters. The hoarding of essential supplies was declared a crime . . .

Two weeks later John Alonzo sat in his office studying the papers which measured out his days.

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Three hundred and forty-nine persons lost their lives in automobile accidents during the evacuation.

Sixteen died of carbon monoxide poisoning in the traffic jams.

Twenty-eight critical patients died while being moved to other hospitals or because of inadequate facilities at their destinations.

Twenty-two persons were crushed to death in a theater when a manager made a rash announcement.

Forty-three looters and two National Guardsmen were shot to death.

Fifteen persons died in fires.

Injured and wounded were many times the dead.

The evacuation had cost an estimated one billion dollars, directly or indirectly through lost business and damage to property. Already one billion dollars in law suits had been filed against the city. And the pressure of the population to return to the city was becoming unbearable. The National Guard no longer could keep them back . . .

The male voice of his assistant came over the intercom. "A young lady on line one, sir," he said.

Alonzo's face tightened and then he reached for the telephone.

"Hello, Daddy," a little girl's voice said.

"Ginny!" Alonzo said. "Where are you calling from?"

"We're home, Daddy. We didn't want to stay away any longer. We wanted to come home."

And then it was his wife saying that it was so, that they couldn't stand it in Utah any more: her parents couldn't stand it, she couldn't stand it, the kids couldn't stand it, and so they had come home like everybody else.

"Why didn't you call me first?"

"I knew you would tell us not to come. Is it all right, John?"

"I hope so," he said, and hope was all he had as San Francisco began to fill up again as rapidly as it had been emptied, as the business of life began again, as normality crept like fog across the city.

The next day his secretary told him that Dr. Parsons and the other geologists were back, and they insisted on seeing him.

The carousel had come around again—the meeting with the scientists, the prophet in the park, the unheeding city, the girl and his own shocking behavior—and he reached out for the brass ring of reality: the ground was shaky under his feet but at last he knew himself, his weakness, his impotence in the face of impending events.

"Tell them," Alonzo said, "tell them to go kill their chickens somewhere else. We've had our disaster. Tell them it doesn't matter what they predict now. We can't move these people again. Not even if we wanted to."

Two days later, at 5:32 a.m., the earthquake began. It hit 8.5 on the Richter scale. ■

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Swiss movement

Wars are fought by armies,
won by generals,
and started by politicians.

ERIC VINICOFF and MARCIA MARTIN

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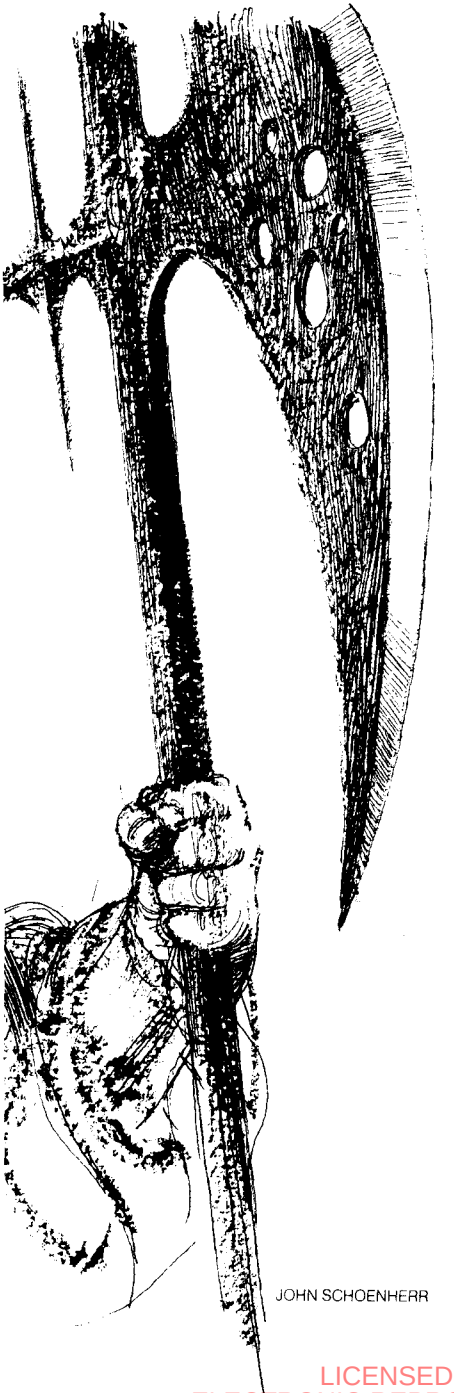

JOHN SCHOENHERR

The highway between Munich and Border Station Nineteen wound through benighted woods and solemn hills. Few automobiles traveled it, since most of the post's supplies and personnel came and went by jetcopter. But General Ober owned a vintage '82 Porsche, and he indulged his love of driving at every opportunity. Thus it was that he sped along the two-lane road, returning to the post after a staff meeting in Heidelberg.

He let his mental auto-pilot guide the Porsche while he mulled over his new assignment. The Premier wanted an incident. Not that there was any real danger of outside intervention—the world was not going to come to the aid of Switzerland after the Collapse of 1992—yet even a flimsy provocation would serve to lessen international rumblings.

It should not be difficult to fake an attack on Nineteen; Swiss Ski Patrol uniforms and weapons are already stockpiled for the operation. Secrecy is the key. Who can I trust to help me in this? Berfeld?

Twin lights in the rear scanner screen caught his attention. A Volkswagen electric mini-bus drew alongside the Porsche. It was filled to overflowing with a blonde-haired family.

So the war finally begins. I am glad. Hauggard argues that the Swiss cannot be conquered because

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of their tenacity and excellent defensive location, but that kind of thinking harkens back to the days of troop warfare. With CBMs to batter them—not to mention fighters, bombers, attack jetcopters, glider-landing air cavalry and robo-tanks—I wager the end will be swift and satisfactory. At best we can defeat them, and at worst—destroy them.

The Volkswagen honked its horn gaily, and General Ober honked back. It was good to see people unaffected by the grimness of military life.

Atomic weapons are another advantage we have over the Swiss. We do not dare use them, of course; an A-assault on Switzerland would pollute half the water in Central Europe, and much of the air as well. But perhaps the threat *of atomic warfare would cause—*

He never saw the woman beside the driver of the Volkswagen open her window. He never saw the towheaded girl in the back seat hand her mother a tangerine-sized globe of dark plastic. He never saw the mother depress a button in the side of the ball and toss it across the gap between the two vehicles.

In fact, no single, final, distinctive sight marked for General Ober his passage from life to death. The Porsche burst into orange and black around him, then it crashed through a stand of somber oaks.

Laughing and smiling still, the blonde-haired family drove on.

GOVERNMENT CENTRAL, HEIDELBERG, NOREUROPA

"I've called this emergency meeting," said the Premier, "to consolidate our Switzerland campaign." He glared at his seven department heads spaced around the circular conference table. "Einerson, where is your report on the Basel Institute? Why hasn't it been forwarded to me?"

Gunnar Einerson, the Head of Military Intelligence, knew he was being upbraided. He gripped his lucky stone firmly and replied, "Two of my best operatives are investigating now, Premier. I expect them back in three days. But I tell you, the Swiss wouldn't destroy the Institute just to keep it out of our hands. They're saner than that."

"We must be certain!" Premier Kosti shouted. His mercurial temper was merely a pose, a political tool for intimidating subordinates. Beneath it lay an organic computer untainted by emotion. "The mining bacteria they cultivate there is worth more than everything else in the country combined!"

Then the Premier listened carefully to his earphone monitor. Anger brought redness to his face.

"General Ober's automobile was just found wrecked along the highway to Border Station Nineteen," he announced. "That means our plan for creating an incident with Switzerland was *not* put into effect! Our schedule is set back days . . . maybe weeks!"

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No sympathy for Ober—just wrath at the untimeliness of his death, Gunnar observed. Then an equally unpleasant thought came to him. "Premier, you're assuming he died accidentally?"

Kosti was irritated at being wrenched from his own dark calculations. "Of course! What else? He lost control of that ludicrous racing car and crashed!"

Gunnar's hunch crystallized into a certainty. He used his station's phone link to call the police in Munich and order that some tests be made.

Frederico Martinelli, late of Noreuropan Military Intelligence, lay collapsed over the washstand of a shabby apartment in downtown Basel—on the left bank of the Rhine and less than nine hundred meters from the Institute. Hans Bergenholm decided from the stiffness of the corpse that it had been there for many hours.

Operatives never become friendly with other operatives—it is too chancy—but you were pleasant to work with, Frederico Martinelli. Good-bye.

Hans examined the husky Latin body for clues, but he found none. Nor did a look around the bathroom reveal anything. Frederico held a toothbrush in one dead hand, so Hans placed a small dab of toothpaste from the uncapped tube onto the washstand and sniffed it. All he could detect was mint overpowering enough to hide any more subtle aroma.

He looked closely at the tube and smiled. At the base, where only the most discerning observer would have seen it, a tiny puncture mark marred the slick plastic. *Something fatal injected into the toothpaste? How baroque! Someone goes to great lengths to make his murders look accidental.*

But who? Who explains why, how and everything else. Not the Swiss, surely. Their espionage service is such a pitiful little thing, and very carefully watched. If they were good enough to kill a skilled operative like Frederico, we would know it.

Perhaps someone wants to deprive Noreuropa of Switzerland—and the Basel Institute. France? Balkania? The Soviet Union? It could be anyone. Fortunately I can leave that particular complication to Gunnar. My problems are to complete the assignment and stay alive. In that order.

Hopefully I do not have to start over quite from scratch. If only Frederico kept his diary up to date and well-hidden.

Hans quickly found the floor tile which was not as firmly secured in place as its fellows. He pushed it away, removed a cunningly inserted chunk of floorboard and pulled out the small black notebook.

He opened it, flipping to the final entry. The writing was in German—computer cryptography had eliminated fancy cyphers.

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SWISS SECURITY IS A FARCE. I PROBED B. I. LAST NIGHT. NO DETECTION. I DESCENDED INTO THE TOP-SECRET LEVEL AND CHECKED THE SHIPPING RECORDS FOR T. S. CULTURES. IT OCCURRED TO EINERSON THAT TAILORED BACTERIA MIGHT HAVE WAR POTENTIAL.

NONE ARE GOING TO MILITARY POSTS. HOWEVER, MUCH TO MY SURPRISE AND CONCERN, I LEARNED THAT ALMOST ALL OF THE NON-COMMERCIAL STRAINS ARE BEING DISPATCHED TO NATIONAL SERVICE TRAINING CENTERS.

Hans, too, was surprised. Of all the countries in Europe, only Switzerland retained compulsory military training for its citizens—Sweden had abandoned the practice upon incorporating with Noreuropa. Every Swiss man and woman took a year of training at the age of nineteen. The National Service Centers were only quasi-military operations, however; they could hardly be key points in the Swiss defense plans. Why, then, were they receiving shipments of special biocultures from Basel? He read on.

THE ONLY OTHER SIZABLE SHIPMENTS OF T. S. STRAINS ARE MONTHLY ORDERS SENT TO THE HOROLOGICAL LABORATORY IN NEUCHATEL.

WE MUST INVESTIGATE THERE NEXT.

FINAL SUMMATION ON TROOP DEPLOYMENT (ADDENDUM FOR EINERSON).

MILITARY FORCES ARE IN DEFENSIVE ALIGNMENT FOR A NOREUROPAN ATTACK, BUT THE SWISS DO NOT APPEAR TO TAKE THE THREAT SERIOUSLY. PUBLIC OPINION IS THAT NO INVASION WILL TAKE PLACE. ERGO, I ASSUME THEY PLAN TO ACCEPT INCORPORATION.

Hans shook his head. His own spying had confirmed that the Swiss did *not* plan to accept incorporation.

Then why are they so confident of their safety?

I wish I could call Gunnar for orders. This personal-contact-only procedure may work wonders for security, but it is hell on operatives stuck in the field with broken assignments. Technically I know I should finish up on the Institute operation, but these new loose ends look more important.

Only one question remained; which to investigate first—the Training Centers or the Horological Laboratory.

GOVERNMENT CENTRAL
HEIDELBERG, NOREUROPA

". . . mercury fulminate, most likely," reported the voice from Munich police central. "We found traces of the bomb casing—our lab is studying them now. All we know for sure is that it wasn't an amateur job. Most—"

Premier Kosti's fist slammed a

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button on the arm of his throne-like chair, and the voice died. "The Swiss!" he muttered. "So this is how they defend themselves!" He smiled thinly. "General Ober supplies us with our incident after all.

"If the Swiss think that treacherously killing one general will deter us, let them learn how wrong they are! Kroger, bring our forces to combat readiness! I'll give the Swiss one last opportunity to incorporate willingly! If they refuse, we invade!"

High General Kroger, more comfortable in his military environment than at these Council sessions under the eye of the Premier, mumbled softly, "I will, ah . . . attend to it at once, sir." He activated his com link and began whispering orders.

"Einerson," the Premier continued, "I want no more automobile crashes involving important government officials! Arrange guards for every citizen with an O clearance or higher! Further, I want every Swiss national in Noreuropa arrested—every vacationer, businessman, embassy worker and so on! Every Swiss national! Interrogate them! Find out what happened to General Ober, who ordered it and why!"

Gunnar wondered how, with so many soldiers committed to the Swiss invasion, he would be able to muster guards for every important man and woman in Noreuropa—and then send others after the Swiss nationals. "Yes, Premier," he sighed.

In the central section of Neuchatel, occupying an entire block all by itself, stood the ugly concrete box of the Swiss Horological Laboratory. Founded in 1796 by the *Federation des Fabricateurs de Montres*, it was bought by the Swiss government during the money troubles of 1992. In its early days the laboratory had worked solely to improve the art of watchmaking. By the Twenty-first Century, however, SHL operated in every genre of micromanipulation. SHL microtools could be found functioning superiorly in every nation on Earth. They were the *ne plus ultra* of their field.

A Swiss Army truck entered the SHL garage at ten minutes after midnight. Guards gave it a cursory examination, then they sent it down to the bottom level garage—where the highest security was maintained.

The truck bore one item of unexpected cargo—Hans Bergenholm.

Confident in his "borrowed" Swiss Army sergeant's uniform, Hans marched along a gleaming corridor and peered into room after room. In each one technicians labored over banks of micromanipulatory equipment, performing incomprehensible tasks. Hans knew by the number of signs urging caution and soldiers on patrol that he was in a top-secret area.

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Inside the last room of the corridor something caught his eye which stopped him abruptly. A crate marked BASEL INSTITUTE—FRAGILE sat on the floor.

"INTRUDER ALERT!" An electronically amplified voice reverberated through the corridor. "INTRUDER ALERT! LOOK FOR A MAN IN A SERGEANT'S UNIFORM. HE IS AN IMPOSTER!"

So they went to load a new cargo into the truck and found the driver. Time for another change of costume. Hans slipped quietly into the workroom containing the Basel Institute crate. The small white cubicle was dominated by a roundtable micromanipulation station. Concentric rings of controls wound around the rim—nine seats faced them, but only one was occupied. A rotating work platform stood elevated in the center. From the ceiling sprouted lights, television cameras, waldoes and other tools.

The workroom's occupant, a huge man with short black hair, was engrossed in a televised image of his work-in-progress. By the look of him he had not even heard the alert.

Hans slashed the man across the back of the neck, then he quickly shut the sliding door and donned his third outfit of the night. Before departing, however, he eyed the object on the work platform.

It was to all appearances a perfectly normal portable FM radio—a Revox model which Hans had often seen in shop windows. The backplate was in place, but he had interrupted the process of inserting the second of four holding screws.

Hans put the radio in his coat pocket—there would hopefully be time to examine it later. It appeared to be the next link in a mysterious, confusing chain.

Feet pounded down the corridor toward the workroom. Hans put his back to the wall beside the door. When two armed guards charged into the room, he caught the second one through with a blow similar to that which had felled the technician. The result was the same.

Hans stepped out into the passageway—empty—and paused by the door. The first guard had turned at the sound of his crumpling fellow; now he moved cautiously into the corridor. Hans smiled and thumbed the DOOR SHUT button.

While the guard wrestled with the power door, Hans tore the FN submachine gun from his hands and smashed down on the brown-capped head with it. Then he walked calmly back toward the garage. The weapon he hid under his bulky lab coat.

Several contingents of soldiers hurried past him. *So long as the hare remains one step ahead of the hounds, he is safe. If only my luck will hold a little longer.*

He entered the garage office prepared to deal permanently with whoever stood between him and

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escape, but the place was empty. *Scouring the level for me, most likely.* He hunted around the control panels until he found the automatic lift sequencer. Activating it, he stepped into the garage proper.

"There he is!" someone shouted. "Get him!" Slugs from at least two FNs drove Hans to cover behind a truck's front end. He returned fire with his own stolen weapon. A squad of soldiers spread out to trap him.

Hans looked around desperately. The garage lift entrance was grinding open, but fifty meters of bare concrete lay between it and him. Directly behind him sat a military motorcycle-cum-sidecar. Hans dug into his memory, and his heart jumped. The cycle did not require a key!

He dove into the saddle and started the fuel-cell-powered motor. Hunched over as much as possible, he still took a long, shallow bullet graze across his upper back. The pain almost caused him to fall off the cycle. More streams of nickel alloy whipped past his ear.

Wheels spun on concrete, grabbed, and Hans shot across the garage into the lift. Just barely in time, too; the portal almost shut on his posterior.

The ride up took much too long for his sore nerves. He could feel blood on his back and pain spreading through his body. *What can they do to me in here? Gas? Ultrasonics? Hidden guns?*

But apparently the Swiss had not taken any of those precautions, for, when the lift reached ground level, Hans remained conscious and intact. The guards there had been warned. Four submachine guns opened up on him as he accelerated into the street, but the soldiers could not gauge the speed of the hurtling cycle well in the darkness. Bullets tore chunks of ice and macadam from the roadway on every side of Hans. Then he was out of range.

Dawn is already on the horizon. I must get away from here quickly. Abandon the cycle. Tend my back. Then examine the radio and attempt to solve this mad riddle.

In the Security Section of SHL, two high-ranking Swiss officers turned away from the television screen they had been watching. One nodded to the other and said, "It was a tightrope between being too easy to penetrate and actually killing the Noreuropan operative—but I think we walked it successfully."

"Will he understand what he saw?" pondered the other. "If not, everything we've done is useless."

"Then," responded the first officer, "both sides will 'reap a whirlwind' as the saying goes."

Hans retrieved his suitcase at the Neuchatel train station an hour after dawn. He slipped into the men's lavatory and donned fresh

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clothing. His torn, dirty and blood-stained lab coat went into the dump chute. A clumsily-placed bandage covered the equally clumsily-cleaned wound on his back—working on one's own back with just a shaving mirror for guidance is not easy.

Procuring a map in the lobby, he sat down on a hard bench and hunted for the nearest National Service Training Center. He found one outside of Lipsze, fifty kilometers south and east of Neuchatel, almost on the Italian border. Lipsze was scarcely more than a village, yet it had a train station, so Hans bought a ticket. With over an hour before departure, he ordered a hearty breakfast at the station restaurant. He sat by a window where he could watch the monorail cars pulling away from the platform.

First Hans fought back drowsiness with food and *café au lait,* then he brought out the radio.

Looks absolutely normal. He studied every centimeter of it carefully. No hidden switches. No unusual fittings. He flipped the ON-OFF knob and tuned in station after station. *Whatever else it does, it certainly works well as a radio.*

Then Hans found the unmarked setting between FM and FM stereo. A streamer of white vapor began to leak from the radio's speaker. He caught one sniff of the gas and frantically twisted the switch back to FM. Using a napkin he fanned the fumes away.

Nerve gas! This is a murder weapon!

Eighteen hours later, Hans gained the top of a hill overlooking the Lipsze National Service Training Center. He shut off the motor of his rental snowmobile and used its field scanner to put a closeup image of the camp on the dashboard screen. He watched it, shivering. *Why, oh why did I not phone ahead and reserve a closed cabin model?* Even a rented warm-suit turned up to full power was not equal to the biting night.

Dawn remained hours off, but there was a full moon by which Hans could see. The layout of barracks around a central court appeared like any other military camp. Soldiers patrolled beyond the outer fence. Floodlights added their puddles of illumination to the scene. Hans sat back and waited.

The zealous young heroes who wish to join Military Intelligence should be here now. Our work is not all high living and romantic adventure. Most of it is sitting and waiting—cold, boring, unglamorous waiting.

A truck arrived at the main gate shortly after sunrise. Hans, half-frozen, recognized the Army vehicle as one he had seen in the SHL garage. Presumably it bore a cargo of micro-machined products.

Are they all radios, or a selection of equally innocent-looking devices? What purpose do they serve? And

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why are they brought here? Hans laughed at himself. These were the questions to which he himself was supposed to be learning the answers, not asking them of the grim Aesir.

The truck parked in the court, and young people in brown Army uniforms—civilian youths taking their year of training—started to unload small packages. These were borne into a high-roofed storehouse.

Elsewhere on the field, the early morning instruction program was beginning. Trainees worked in squads of twenty, directed by older men and women garbed not in Army brown, to Hans' surprise, but in black, unadorned warm-suits.

The training procedures also startled him. Judo, karate and wrestling were normal enough, but . . . one team was *stalking* another, a gigantic game of hide-and-seek played seriously, according to unknown rules. Another team hunched around the hood of a demonstration car while its instructor tinkered with the engine. Another team was receiving small 35mm cameras from a SHL box. Its instructor stood atop one of several discarded crates, lecturing them.

Another team dug holes and planted devices in them—carefully. Another team was being frisked by its instructor, who unearthed an impressive stack of concealed weapons. Another team practiced scaling the two-story wall of the storehouse—using some form of grippers which fitted on their hands and feet. Another team issued from the main gate and scattered into the hillside woods. Two more teams paused by the gate, obviously waiting to go after them.

Hans was fascinated. *This is no military training center; in fact, it seems to have little to do with soldiering. But I do recall something similar—the M. I. institution at Jarlsberg. A training school for spies. Is this where Switzerland produces operatives so good that we have never spotted them in the field?*

But nobody is that good. Operatives do not carry on their activities in a vacuum. If they were gathering information in other nations, we would know it. Another thing: the training down there is too specialized. No espionage skills, no spy techniques. Just the "commando" end of the business. In fact . . .

It all came together. *A secret training academy—not for operatives, but for people who can kill even a man like Frederico who knew every dirty trick in the business, for people who use props like gas bombs disguised as radios, for . . . assassins.*

GOVERNMENT CENTRAL
HEIDELBERG, NOREUROPA

Gunnar picked up the top flimsy from a stack on the arm of his chair and waved it at Premier Kosti. "They've been coming in all

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day, Premier. For example—" He began to read from the sheet:

"REPORT: POLICE, UNIFIED BERLIN. IN PURSUANCE OF COUNCIL SECURITY DIRECTIVE 208, WE SOUGHT TO ARREST THOSE SWISS NATIONALS IN OUR JURISDICTION.

"CASE ONE: LE JOI, FRANCES E. AGE 26, FEMALE, RESIDENCE IN ZERMATT, SWITZERLAND. STATED PURPOSE OF VISIT—PURCHASING GOODS FOR HER PHOTOGRAPHIC SHOP.

"SERGEANTS FRITZ MEULLER AND JON KURTZMAN ARRESTED THE AFOREMENTIONED AT 0730 ON JANUARY 17 AT HER HOTEL ROOM. THEY WERE ENROUTE TO POLICE CENTRAL, WITH HER IN THE PRISONER SECTION OF THEIR PATROL CAR, AT 0750 (COM CALL CONFIRMATION).

"THE VEHICLE WAS FOUND, AT 1050, WRECKED IN A FIELD OUTSIDE OF OUR JURISDICTION. SERGEANTS MEULLER AND KURTZMAN WERE SEATED WITHIN, DEAD FROM BROKEN NECKS APPROPRIATE TO SUCH AN ACCIDENT. NO TRACES OF THE PRISONER REMAINED.

"CASE TWO—"

"Enough." Kosti's voice was deadly calm. "You tell me they all read that way, and I believe you. Every Swiss national in Noreuropa has gone into hiding. Those who were arrested managed to escape through 'accidents'. Accidents!" he screamed. "They weren't accidents! They weren't ordinary citizens, either! Soldiers, Einerson! Soldiers sent to ruin us from within! Are our key men and women guarded?"

"Yes, Premier." Gunnar wiped sweat from his forehead. "But I disagree about the nationals being soldiers. They aren't. They can't be. You know how carefully we checked them before issuing travel visas. None of them have ever belonged to the Swiss military. Each has a *bona fide* history running back to his or her teens."

"What else can they be?!" the Premier shrieked.

Gunnar shook his head. "I don't know, Premier. I just don't know."

A training school for assassins. Bio-warfare cultures from Basel. Special equipment from SHL. Graduates go from here to kill spies like Frederico and . . . who else? Hans sat back in his snowmobile and pondered a hundred questions.

Motive was the major mystery. *Killing an operative is not going to put Noreuropa off; the Swiss must know that. I wonder what their program is.*

Watching trainees scatter into the woods below him, Hans knew where that data could be obtained.

He crept down the hillside toward the camp, intent on a stalk of his own. From the bare ridge summit he prowled through increasing numbers of leafless trees until the ground leveled off and he found himself moving amid thick woods.

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Away to his right a branch quivered and dropped its burden of snow. A slight sound, most men would not have heard it. But Hans' life had often hinged on such sounds; he was sensitive to them. He fell onto his belly and crawled in that direction.

Hans peered through the branches of a fat, concealing bush. At first he saw nothing unusual near the noise-making tree. A snowdrift lay up against the northern side of the trunk—that was all. No footprints, no movements, no sounds; only silence and stillness. Whoever had upset the snow was well hidden.

So Hans waited. Patience was the gift of maturity to operatives; attempts to drill it into the young almost always fell short of total success. After a long but unmeasured amount of time, the snowdrift moved. A lithe figure in white began to crawl away from the tree.

Ten meters separated the stalker and his prey. Hans knew he could get no closer without alerting the trainee anyway, so he crashed through the underbrush and dove full upon the back of the other man. That worthy, having heard the first twig snap in Hans' leap, half-turned to fend him off.

A silent struggle ensued, as neither wished to advertise his presence. The trainee still believed that he was fighting one of his fellows.

Hans struck out with a paralyzing blow before the trainee realized differently. The Swiss youth had fought frantically and with skill, but he did not have the fine edge of coordination which experience brings. Slinging the limp body over his shoulder, Hans moved cautiously up the hillside.

He dumped his unconscious cargo into the snowmobile seat and pulled off the white helmet. A pale face appeared, with red lips and straw blonde hair. *Hans Bergenholm, you must be getting old not to have recognized those curves, even through a warm-suit.*

Exposure to the morning chill brought the girl around. She took her disconcerting situation calmly, which made Hans happy. A professional himself, he preferred dealing with professionals. "You're not one of the teachers," she said flatly. "Who are you?"

Hans watched carefully the tensing of her neck muscles. "Please don't," he requested softly. "I'm fifty pounds heavier than you, more skilled, and I already am what you are training to be."

She relaxed. "So you're an . . . operative. Noreuropa?"

"Yes. Now let me explain the rules of the game. I have the key, so you can't start the snowmobile. There are no handy blunt instruments. I patted you down for weapons and found none. If you try to scream, I'll have to coldcock you. Finally, we're far enough away from your assassination acad-

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emy to eliminate the possibility of visitors. We can, therefore, have a serious discussion."

There is only one point at which to stop talking in an interrogation—the beginning. The girl stared impassively.

"That won't work either," Hans said. "I'd hate to have to hurt you."

"Would you really?" The girl's voice dripped scorn. "I bet you'd enjoy it! My name's Andrea, Andrea Deneuve! I'm not talking because of your threat, you repulsive old man, but because I've something to say! So long as a single Swiss citizen lives we'll never be conquered! Take *that* back and tell it to your horrible old Premier!

"Switzerland has *always* been free! We survived Caesar, Charlemagne, Napoleon, Bismark, Hitler and Drachek! We'll survive your Premier!"

Hans replied, "Switzerland can't possibly withstand our military machine. Your mountains and harsh winters and brave soldiers won't save you, just as Germany's 'Fortress Europe' didn't save her from the Allied invasions during World War Two. You've no choice. You either accept incorporation, or lose a devastating and futile war.

"Joining Noreuropa isn't like becoming a slave province of ancient Rome. We put strict controls on resource use, of course, but they're necessary. That's why Noreuropa exists; to insure, by means of a united Europe, the best exploitation of our limited natural resources. Since Africa and Asia and the Americans are hoarding, we must make due with what little we have."

The girl's cheeks flushed with suppressed rage, and she prepared a retort. Hans was pleased with his ploy. By drawing her into a political argument, he had gotten past her half-trained caution. *Keep this going long enough, Hans, and she might say something useful.*

"We don't need Noreuropa to keep us from wasting resources!" the girl spat out. "We budget ourselves quite carefully! After all, *our* scientists developed the mining bacteria! You've no right to tell us how to live! We've always *been* free, and we'll always *be* free!"

Hans countered, "You'll only lose the privilege of betraying Europe by foolish unilateral activity. Home rule will be maintained, except in situations which concern Noreuropa as a whole. Your civil rights will be respected.

"Think of what you'll gain; a share of our advanced technology, our social services, our military security, our common pool of resources—everything that comes from belonging to a large and wealthy nation."

"We'll manage on our own, thank you," the girl said bitterly. "Why not offer your benefits to some other country—one willing to be bought!"

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Hans decided that the time was ripe to steer her into a more profitable vein. "We don't want to invade your lovely nation, but a unified Europe leaves no room for dissidents—and a unified Europe is what we need today."

"That's what *you* say!" she replied hotly. "Who appointed Noreuropa the mastermind of Europe's future?"

Hans sighed. "If the nations on this continent won't act rationally, then someone must . . ."

"Is Noreuropa fit to play Messiah?" The girl—Andrea—was close to angry tears. "Noreuropa, who 'saves' Europe by armed conquest? If any nation deserves that role, it's us! Switzerland has lived without war for over twelve hundred years—a span *you* would end! We don't march our armies about and preach peace like you; for centuries we've maintained a sys—" She stopped abruptly, silenced by the fear of saying too much.

GOVERNMENT CENTRAL, HEIDELBERG, NOREUROPA

High General Kroger raised his eyes from the reports he had been reading and announced, "Here is the, ah . . . response from Berne to our final demand for incorporation, sir. A Swiss diplomatic messenger just delivered it to our, ah . . . embassy there, and they are relaying." He shook his head in disbelief at what he was hearing through the earphone.

The other department heads and Kosti stared at him.

"Well, out with it!" the Premier roared.

Kroger looked distinctly uncomfortable. "Sir, I, ah . . . do not understand this!"

"WHAT . . . DOES . . . THE . . . NOTE . . . SAY?!"

"Sir," Kroger replied unhappily, "the sum of the Swiss, ah . . . communiqué is one word: Drachek."

The Head of Military Intelligence found it incredible that a man could turn so red without bursting, but Kosti managed the feat. While the Premier fumed, Gunnar thought. *Drachek, the Slav leader who almost turned his people into a world power before he was caught in the Purge of '99. How in the name of Odin does he relate to this puzzle?*

Gunnar punched the number of M. I. Central Files on his armrest com. "Rayna," he said, "run a correlation program for Drachek-Switzerland, Drachek-Noreuropa and Drachek-present situation *inter* Noreuropa *et* Switzerland. I want data, and I want it fast!" He broke off the call.

Premier Kosti was ranting again. "This final piece of insolence is too much! Kroger, initiate Operation Checkmate! Since we haven't heard properly from Switzerland, Switzerland shall hear properly from us!"

The High General smiled hap-

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pily and began whispering into his com. Throughout the room a wave of excited discussion grew. Kosti's wrath became savage anticipation.

Suddenly Kroger gave out a high-pitched squawk of rage. "What?!" he demanded of the com. "Begin a full search at once! The saboteurs must be caught! And when I get to the bottom of this, Colonel, someone down there will lose more than rank!"

Kroger looked up to find every eye in the room on him. "What is it?" asked the Premier with ominous calm.

The High General had trouble speaking. At first nothing came out but squeaking sounds. Then: "Premier Kosti, there has been an, ah . . . explosion in the com-center. It is being investigated. But this will mean a, ah . . . delay in dispatching the invasion orders."

"Use another radio!" The Premier was furious. "Use a telephone! Send an officer in a fast jet! Do anything but weary me with further delays!"

"Unfortunately, it is, ah . . . not that simple, sir," Kroger replied. "The orders must be transmitted through a RASDAX discriminator, otherwise they won't be, ah . . . accepted as authentic. An ordinary, ah . . . radio or telephone won't do. Our auxiliary com-center is being prepared for use, but all of our com-techs were, ah . . . on duty when the explosion occurred. More are being flown in from Bonn, but, ah . . . it will be hours, perhaps days, before the orders can be transmitted.

"As for, ah . . . sending a messenger, only one officer has the authority to initiate Operation Checkmate—the, ah . . . High General. Personal verification is necessary."

Premier Kosti pointed a bone-thin arm at Kroger. "Then go! Deliver the invasion orders personally! But when you return . . . I WANT TO KNOW HOW THE SWISS PENETRATED GOVERNMENT CENTRAL'S SECURITY WEB AND SABOTAGED OUR COM-CENTER!"

High General Kroger bowed stiffly and exited.

"You won't get out of the country, you know," Andrea said. The morning sun rode a little higher in the sky, and the snowmobile was almost bearable.

"Then why not humor me," Hans suggested. "Tell me about your alma mater, the assassination school."

Silence.

"In that case, let me tell you. Switzerland has nineteen National Service Training Centers. My luck would have to be improbably good for me to stumble upon your one and only murder academy. Further, both the Basel Institute and SHL are sending materials to *all* the centers." Hans noted a flickering of Andrea's expression—all he needed to confirm his fantastic suspicion—

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and continued, "Everything I've seen so far points to a large operation.

"Which is why you're coming to Noreuropa with me. A handful of killers could be coped with, but the thought of what you Swiss might be doing scares me. No wonder you murdered Frederico. Our interrogators will get the whole truth out of you."

"And what do you think that truth is?" she sneered.

Hans swallowed. His assumptions were based on tenuous evidence, to say the least. But they appeared to be the only possible explanation. By hitting her with them and observing the reaction, he would know for sure.

"At the age of nineteen every Swiss citizen enters a NST center for one year. But they don't learn to soldier, do they? They learn to kill! Every man and woman in this lovely, pastoral country is a trained assassin!"

The sentence sounded incredible to Hans even as he uttered it, but her eyes acknowledged that he had spoken the truth.

A drug from Hans' kit . . . Andrea, a comatose sleepwalker incapable of speech . . . by snowmobile to Lipsze . . . new clothes . . . Herr Kleibman and his "disturbed" daughter . . . by train to Geneva . . . Air France to Paris, then Lufthansa to Heidelberg . . . an antidote injection . . .

GOVERNMENT CENTRAL
HEIDELBERG, NOREUROPA

Premier Kosti and Gunnar Einerson were alone in the Council chamber, discussing the unexplained jet crash that had taken the life of High General Kroger—before he could deliver his orders—when Hans rushed his female prisoner into the room. They went at once to Gunnar's chair and stood quietly beside him; Hans to the right, Andrea to the left.

The Head of Military Intelligence switched on his computer vocal input terminal. The government's cybernetic complex was often called on by the Council for analysis and synthesis: Gunnar wanted it to compile data.

He then asked for Hans' report. Both he and Kosti stared curiously at Andrea, but the question of her presence could wait. The report, in view of everything that had happened, was urgent.

Hans' recitation required more than twenty minutes; at the end of it he could hardly hear himself over Kosti's mutterings of protest. Andrea stood silently through the entire monologue, listening carefully and studying the faces of the three men.

The Premier immediately activated his own computer terminal and asked, "Is Bergenholm lying?"

"Voice and bio-scanner analyses indicate no conscious attempts at falsehood," the baritone pseudo-voice replied.

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"Keep monitoring," ordered the Premier. "Report any lies."

Then he muttered to himself, "Now I see Switzerland's game." Turning to Hans, he continued aloud, "Fearing the unknown is natural, Bergenholm, but surely you don't think even a *nation* of knife-in-the-back killers can defeat our forces?"

"Haven't they already?" Gunnar shot back before Hans could answer. The Head of Military Intelligence was frowning. "Every move we make, they block. They don't have to fight our soldiers; they can keep us from ever launching an attack."

Hans looked at Andrea, who was smiling like a blond-haired Mona Lisa, and said, "You've been a bit too docile through all of this. I get the feeling you wanted to come with me. You haven't so much as a poisoned fingernail, so you're obviously not here to kill anyone. You must have something to tell us. Out with it!"

But Andrea shook her head, saying nothing.

Gunnar thrust his left hand into his suit pocket and grasped his lucky stone for courage. Then he said, "Premier, I did some digging, and I believe I know how the Slav leader Drachek relates to all of this."

"I'm listening," Kosti growled.

All eyes were on Gunnar as he began speaking. "The Foreign Office had certain hints in the months just before the purge. Like us, Drachek wanted to annex Switzerland to obtain the Basel Institute. In light of our own difficulties I investigated the 'purge' carefully, and I learned something very disturbing; the men who became the post-purge leaders of Balkania didn't direct or carry out the killings! In fact, to this day no one knows who did! But I doubt it's a coincidence that the new regime had no hostile interest in Switzerland!"

The Premier, whatever his faults, was not stupid. "Swiss assassins! What a brilliant method of self-defense! No need to battle armies—just murder the leaders who threaten you! I wonder how long they've been at it?"

"You can't be serious—" Hans began, only to be cut off by Gunnar.

"A very long time, Premier," Gunnar stated. "I reached the same conclusion as you, but *before* I heard Hans' report. So I probed deeper and found no less than *seven* instances where assassinations or 'accidents' saved Switzerland from foreign aggression—the earliest taking place almost four centuries ago. In 1914, for example, both Austria-Hungary and Germany were ready to expand through conquest. Switzerland lay on their borders, an inviting target. But one assassination, cleverly blamed on a fanatic group, started World War One. Both countries lost interest in Switzerland.

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"In 1943 Hitler was trying to conquer all of Europe—including, eventually, Switzerland. But an 'attempted assassination' that 'failed' turned the little man with the mustache against his most capable generals and lost World War Two for him.

"In 1985 the French—"

"Wait a minute!" Hans interrupted. "If they're that good, I should be dead now! I must have been *allowed* to see what I saw in Switzerland and *allowed* to escape!"

"So Switzerland wants us to know about her assassins," said the Premier. He was speaking thoughtfully instead of shouting—a sign of extreme concern. "Ober, the escape of the nationals, Kroger, our comcenter and Bergenholm's experiences; we're being warned. But why do we deserve a warning when Hitler, Drachek and the others didn't?"

Gunnar was ready with an answer to that. "Because Noreuropa's resource conservation program is vital to Europe, and the Swiss know it! Likewise our program for European unification. Remember Hans' report, his interrogation of Mme. Deneuve? She practically said as much. Switzerland needs Europe, and Europe needs Noreuropa. The Swiss want to stop our invasion, but they don't want us destroyed."

The three men looked to Andrea for confirmation or rejection of Gunnar's theory, but she was attentively studying the ceiling.

"Destroyed?" Hans asked Gunnar. "How can the Swiss assassins destroy us? I don't see this great danger you're hinting at."

"That's because you're blind!" Gunnar replied angrily. "Consider the condition Noreuropa would be in if all of our leaders, administrators, high-ranking officers, important technicians and scientists were killed! Consider our economy shattered by the loss of key personnel, our government inactive, our military beheaded, our whole society paralyzed! Lastly, consider the fact that anybody who tried to put the pieces back together would become a target—and everybody would know it! The results would be worse than the Collapse; we would be prey for France or Balkania or just about anyone else!"

Silence filled the room.

Gunnar eyed Andrea as though she were a chess problem that he could not solve, then he said to the Premier, "I suppose they have it all down to a science. They probably use computers to analyze target countries; put in a desired goal—like preventing an invasion of their homeland—and get out a list of those who must die."

"Computer, attention!" the Premier rapped out. "Given the stated Swiss capabilities for warfare by assassination, calculate our most favorable strategy *in re* invading Switzerland."

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Eight seconds passed; an incredibly long time for the cybernetic complex. Then the pseudovoice replied, "Null program. There are no favorable strategies."

Gunnar nodded. He had reached the same conclusion immediately upon hearing his operative's report. But outrage and disbelief could be read in Hans' face. The Premier appeared lost in thought. Andrea smiled.

"The Swiss have discovered the most efficient form of warfare," Gunnar said in an admiring tone. "They defend their independence by killing two thousand leaders—the right ones--rather than two million troops. Warfare by assassination is easier, more humane and less expensive. Moreover, it produces little property damage. But for seven thousand years no one has seen the obvious—because leaders aren't likely to use a form of warfare in which they're the prime targets."

Gunnar stopped his general lecturing and turned to face the Premier. "But now the Swiss have begun it, and every nation will have to copy them. We'll train assassins." He laughed.

"What is so humorous?" Kosti demanded.

"We're heading for a pragmatic era of world peace!" Gunnar chuckled. "With leaders as targets—and pitifully accessible to expert killers—who will dare start wars? Peace through fear; I think that's the greatest joke in human history!" He laughed again, briefly, then stopped.

No one answered him.

Hans said to Gunnar, "But if we train assassins right away, ours can neutralize theirs. Then our military superiority—"

"A veteran operative should know better," Gunnar replied shortly. "It doesn't work that way. Assassins can't stalk assassins; they need traceable targets. The kind of war you suggest would be mutually devastating—at best. Since Switzerland has such a lead on us, I doubt we would do even that well."

Gunnar laboriously lifted and looked under every corner of the Swiss trap, hoping to find a flaw. But he could find none.

Ordinary protective measures had failed to stop the assassins. Not surprisingly, since it was almost axiomatic that a skilled assassin held the advantage over his target. The killer could strike at will—whenever the odds most favored him. Extraordinary precautions? A few key men could be thoroughly closeted away, but only a few. And they would not be able to operate very efficiently under wraps. Nor could absolute safety be guaranteed.

Gunnar took a deep breath, faced the Premier squarely and began, "The Swiss have shown us by demonstration and historical example that we'll be destroyed if we invade Switzerland. We're being warned off. I don't think we can

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dispute the proof; therefore I suggest you cancel Operation Checkmate permanently. Even if we conquered Switzerland we couldn't hold it. Remember what a relative handful of French Resistance fighters did to the Nazis during World War Two, then consider our troops in a nation of killers!"

The Premier said nothing. Gunnar studied his expression. *He is worried, afraid. No one likes to face death. But he is not totally convinced. If he decides to launch the invasion, Noreuropa will suffer cruelly.*

The bleep of the Premier's com unit startled everyone except Andrea. "Premier Kosti!" came an overwrought underling's voice. "Premier, emergency security reports are coming in from all over Noreuropa! Government officials, military commanders, important businessmen; almost every citizen under Military Intelligence special protection has been the victim of a grotesque joke–"

"So it begins," Andrea said, breaking her silence at last. She stepped over to Kosti's chair and flicked off the com. "I can explain much better than he can, Premier. You see, we've arranged a final demonstration of the effectiveness of warfare by assassination. After this, you'll have to make a decision."

Outrage and confusion held the three men rigid. Andrea went on, "Herr Einerson, you're the Head of Military Intelligence–the Noreuropan best equipped to ferret out assassination plots. And here we are in your most secure area. Are you safe?"

"Of course he is," Hans grated. "You were carefully scanned at the door–you haven't any SHL devices hidden away."

Andrea smiled broadly. "Herr Einerson, you have a certain notorious good luck charm in your pocket. Would you bring it out, please, and show it to us?"

Gunnar brought out his stone and stared at it.

"Now open it," she ordered.

Gunnar saw that his small cube of obsidian was bisected by a hairline–one he knew should not be there. He pulled at both sides, and the "lucky stone" fell apart. Within lay a carefully folded slip of paper.

He unfolded the slip. His hands shook only slightly–a testament to iron control.

"Not only here," Andrea said cheerfully, "but in every military installation in every city; everywhere in Noreuropa similar notes are being read. Over three thousand, two targets per assassin. I'm pleased to hear they're having the desired effect."

"What does it say?!" the Premier screamed at Gunnar.

The latter's lips formed the ghost of a smile as he replied, "It reads: 'BOOM–YOU ARE DEAD'."

Premier Kosti bowed his ancient head and wept. ■

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snowball at perihelion

Power corrupts—unless it's surrounded by integrity.

GLEN BEVER

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1

I, Sergei V. N. Cerenkov, captain and entire crew of Phobos Communications Company courier ship *Syrtis Minor,* am being persecuted. The fact that my tormentors are also my employers may make my predicament understandable, even commonplace—but no more bearable. It was bad enough having to spend seven Standard days in Sun City waiting for my vessel's cargo vault to fill with nondescript but undoubtedly vital packages and message capsules. It may be the biggest settlement on Mercury, but a week there compares unfavorably with a month spent in a clothes closet with the octagenarian remnants of the Women's Christian Temperance Union.

The *Syrtis* had finally left orbit, headed for Luna, at 0500 GMT in the morning—an hour that can only be explained as a hangover from the days of the Pony Express. The Sun City-Tycho City run was strictly routine, and I spent twelve Standard hours of glorious solitude putting many kilometers between myself and Mercury. I was long overdue for R&R, and filled the interval with curvaceous visions of my upcoming tour of the lunar fleshpots. (Do not be deceived by the name of the Company. PCC was incorporated on Phobos strictly as a tax dodge, rather like the old merchant marine "flags of convenience"; its operations are System-wide.) Mercury had dwindled to a barely visible disk in the aft viewscreen when the INCOMING MESSAGE tone, a slightly flat A, had sounded.

The computer had dutifully converted the pulse-code-modulated laser beam overtaking the ship into a string of baleful green letters that spelled disaster. (Voice contact is not practical this close to the Sun except at near spitting range.) "TO: CERENKOV, CAPTAIN PCC COURIER SYRTIS MINOR. VERIFICATION CODE SRES. RETURN MERCURY ORBIT AT ONCE, TAKE ABOARD TWO IMPORTANT PASSENGERS AND URGENT SHIPMENT. REVISED COURSE DATA FOLLOW. TRANSMITTED: WILKINS, SUN CITY COMMUNICATIONS."

"It's the damned front office again," I announced to no one in particular. The PCC agent at Sun City was one Armand Clouseau, who did not have enough authority to relieve himself without a countersigned pass. Somebody had pull on Phobos. Even though the *Syrtis* had passenger accommodations of sorts, I was not enthusiastic about the prospect of a week spent cheek and jowl with dignitaries of any description. Nonetheless, I logged the original message, and favored the string of numbers that replaced it with a dyspeptic glare.

"Better Never Than Late, as the Company would say," I intoned. "Time to turn around." I played a

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brief fugue on the navigation console, and things began to happen. The plasma gun at the far end of the cable the courier was trailing winked out, breaking the electrical connection with the interplanetary medium. The ship switched to stored battery power and began to reel in the cable; it was an invitation to disaster to attempt a major course change in a *Syrtis*-class vessel with 500 kilometers of superconductor strung out behind you.

For the *Syrtis Minor* was one of the earliest electrodynamic sailing ships, cruising the solar wind of charged particles that overflowed the Sun's corona and streamed outward past Mercury at hundreds of kilometers per second. The electric field of the wind provided a potential drop of about two volts per kilometer, and the courier took advantage of every bit of it. Strands of a tinniobium alloy in the cable's interior made it superconducting. To keep those few wires chilled to less than 14 degrees Kelvin, the original cable had been fattened by layer upon layer of aluminized plastic radiation shielding. At one end of this gigantic d-c circuit, the plasma gun flared; the other end delivered over a thousand amperes to the plasma jet which drove the *Syrtis* forward on a torrent of cesium ions.

"Except, of course, when you have to do pirouettes in space," I grumbled. The ship would be running against the solar wind for part of her return to Mercury orbit, and it was going to take extra time and reaction mass. "Serves the accountants right!" I said with what cheer I could muster, nudging the *Syrtis* around to the proper heading by judicious use of her steering jets. "Important passengers! Urgent shipment! Vital crap!"

2

I was still fuming hours later when the *Syrtis Minor*'s low orbit brought me around Mercury's terminator and into voice communication range of Sun City. I made use of my first viewphone link to release a string of profane inquiries.

The recipient of my abuse turned out to be Joe Wilkins, still on duty. "Power down, Sergei," he drawled. "This jaunt has been cleared at the top, so there's no point in complaining. A robot shuttle will be up to greet you in about twenty minutes. I'm not going to tell you any more about *them*," he added with a sadistic chuckle, "because I'd hate to spoil the surprise." I recognized the futility of further questioning, and broke the connection.

After activating the ship's beacon, I killed the time by trying to read the latest uplifting Company publication: *Asteroid Belt Navigation by Radio Occultation of Selected Uncataloged Objects.* After a four-hour trip back to Mercury with nothing else to do, the courier was already clean enough to re-

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ceive a System Senator on a white-glove inspection tour. I only hoped that neither of the new passengers favored the foul cigars of a traveling dignitary of recent, ghastly memory.

I was awakened by the clank of the shuttle's umbilical making firm magnetic contact with the *Syrtis Minor*'s outer hull. I stretched extravagantly, savoring the last of my solitude. Center deck was the principal living area aboard, as well as the center of the ship's nervous system, and it would be crowded soon enough. I checked that the hatch to the cargo vault and propulsion complex "below" (a convenient distinction even when the courier was not accelerating) was secured; passengers had no business below decks. Satisfied, I launched myself "up" the central corridor that connected the various levels of the ship and terminated at the airlock.

The robot pilot had neatly surrounded the outer hatch with the large, flexible tube used for transfers between vessels *in vacuo*. When the lock's Christmas tree panel of lights indicated a pressure match, I reached for the release lever—and hesitated. "I wonder who or what Clouseau is so anxious to get rid of?" I muttered. For a fleeting moment I considered claiming that the airlock was jammed shut, and relying on a courier ship's reputation for impregnability. Then I bowed to the inevitable and jerked the lever down harder than necessary. Affixing my most civil sneer to my face, I waited.

The inner hatch opened a crack, and I heard a reedy male voice declaim:

"When the gila monster crosses
the icy waste,
With avian amanuensis greasily
rampant,
Then the omniscient, concupiscent,
Deliquescent one shall scourge
the toads."

"That," I said to the wall, "is either an insane zoologist, or—"

"I am a Certified Prophet of the Syncretist Church of the Transcendental High," the ageless, emaciated man told me, floating into the ship in a cloud of flowing white robes and hair. "You are forgiven. Bless you in this and all future cycles, my son. May your karma ever lighten. You may call me Philadelphia."

I summoned what little I knew about the Syncretist Church that claimed the allegiance of several hundred million faithful System-wide. They were evangelistic, hedonistic, and (as usual) convinced that The End Was Nigh. None of which was much help when confronted by a Certified Prophet. "Excuse me, but what was the name again?"

"It is Philadelphia, taken from the city in which I received enlightenment, and began to exercise my gift. The men's room at Independence Hall was my bo tree. I have

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adopted the new name to symbolize my present state of grace."

"Whatever you say." After an awkward pause, I added, "Your sleeping cubicle is #2, down this central shaft. Will we be seeing much of you this trip?"

But the Prophet was no longer listening. He had drifted down the shaft mumbling into the minicorder at his waist. It sounded like more of the same, so I shrugged and turned to find the outstretched hand of a muscular, middle-aged man who seemed to be as wide as he was tall. "My name is Brother Mongosa, Captain. More formally, Dr. Xavier Mongosa, S.L. My apologies for interrupting your flight, but I have some equipment that simply must get to Snowball within the next few days. I trust you are not too inconvenienced?"

I can lie with the best of them when necessary. "No, Doctor, no trouble at all. The Company is always glad to cooperate with the Society of Lucifer." After all, I reflected, if anyone could afford the outrageous fees PCC charged, it was the Society. "But there must be some mistake," I continued. "The *Syrtis* is bound for Tycho City, while I believe Snowball is approaching perihelion. I'm afraid a stopover there would be logistically impossible."

"Not a stopover, Captain Cerenkov. The asteroid is your new destination." He handed me an ornate envelope with the PCC seal and current verification code affixed. His wintry smile indicated that there was no chance whatever of my taking R&R on Luna any time soon. I read the routing form just far enough to verify the bad news. "And now," Mongosa said, "I would like your help transshipping my equipment. I want it stored and us underway as soon as possible."

"That's a problem, too," I said hopefully. "The ship's cargo vault is just about full, and there wouldn't be room—"

"Read paragraph four," he told me, and disappeared back into the shuttle. I read it. It authorized me to unload my entire current shipment onto the robot shuttle for return to Sun City and alternate disposition. It even relieved me of the responsibility of delivering it to Clouseau personally; somebody was in one hell of a hurry.

Nearly an hour later, with the last of Brother Mongosa's ungainly crates lashed down in the recently denuded cargo vault below center deck, my curiosity outvoted my irritation. "I realize that you don't have to tell me, since your shipment passed safety inspection down on the surface. But what's *in* these cases we've been manhandling?"

"You mean, am I shipping dead bodies or stolen jewels this trip?" he said with a tight smile. "Nothing so exotic. We've been tossing around several spectroheliographs, an experimental high-resolution solar magnetograph, and miscella-

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neous other junk—about half a million credits worth, I guess, but of limited appeal to a prospective thief. I'm an astronomer, and this emergency trip is necessary to get some more of the tools of my trade to Snowball before the next series of big flares."

"The next series? What's the hurry, then?" I asked. "I have a passing interest in such things, and I can match the predictive ability of Dudash's calcium plage theory by throwing darts blindfolded. The next series may not be for months!"

"The next major solar flare," Mongosa said firmly, "will be a class 2+ event on the northwest limb of the Sun, commencing in approximately ten Standard days. The Society's observatory on Snowball will be in a uniquely favorable position to observe it, too. At perihelion we will be less than thirteen million kilometers from the solar center, actually *inside* the coronal fringes!"

"Wonderful," I said without conviction. The *Syrtis Minor* was well shielded against the normal hazards of circumsolar space. Indeed, without the constant interplay of the solar wind and the Sun's magnetic field lines, she could not have moved far under power.

But when a region of the photosphere five times the size of the Earth suddenly erupts outward at a thousand kilometers per second, the immediate vicinity becomes unhealthy for man and semiconductor alike. The flare is blinding in infrared, visible, and ultraviolet. One to fifteen Angstrom X-rays can increase a hundredfold in minutes, often accompanied by overpowering bursts of radio energy in the decimeter and meter range. Soon after, the solar wind swells to hurricane strength, many of the protons and electrons in it reaching relativistic speeds. The kinetic energy of the plasma tongue is great enough to carry the solar magnetic field in the region of the flare with it, as an extended "magnetic bottle" of hell careening outward to the planets. So fast does the explosion travel that a hydromagnetic shock wave several hundred kilometers thick develops ahead of it. All of this spells disaster to the ship unlucky enough to be caught between ports by an unexpected, large magnitude flare.

"Wonderful," I repeated. "Flare prediction is certainly a vital subject. But you'll forgive me if I don't wait around to see the final proof of your theory?"

"I wouldn't dream of detaining you," he said coolly.

"For in the long winter's ascendancy of the saprophyte, the cracked crystal will overcome the syzygy's bane," volunteered Philadelphia from the far wall.

"Right," I told him. It was going to be a long, long trip.

3

This time it was less than an

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hour before the INCOMING MESSAGE tone sounded, too late for any more of the routine departure memos, too early for course corrections. That A was getting flatter every time I heard it. "TO: CERENKOV, CAPTAIN PCC COURIER SYRTIS MINOR. VERIFICATION CODE HTLO. I CAME BACK ON DUTY JUST TO SEND THIS. RETURN MERCURY ORBIT AT ONCE, TAKE ABOARD SINGLE PASSENGER. YOU LUCKY UNPRINTABLE. TRANSMITTED: WILKINS, SUN CITY COMMUNICATIONS."

Brother Mongosa was reading the same message upside-down, but the content came through clearly. "You can't!" he exploded. "I must get to Snowball without further delay!"

"You sound like an echo of my former self," I told him with sweet reasonableness. "But orders are orders; somebody must outrank you." In spite of the further crimp this second detour was putting in my own plans, I was curious to know who had the money and the audacity to interfere with the well-oiled workings of the Society of Lucifer. As a young child I had learned three basic rules for dealing with the Society: 1) The surface of Venus is off-limits to everyone except Brothers and invited guests. 2) There are no invited guests. 3) Crossing the Society shortens one's life expectancy drastically. Nothing provably illegal, of course, but you suddenly become a poor actuarial risk. "Anyway," I argued, "if the predicted flare is ten days away, what can a couple hours delay hurt? Are you afraid of sabotage by a jealous colleague?"

It had been a rhetorical question, but I knew I had hit paydirt: Mongosa had stiffened visibly at the word *sabotage,* then relaxed as I completed the sentence. His reaction signaled "cover story" loud and clear, an indicator I resolved to follow up. As I once again went through the routine of turning the *Syrtis* around, I listened with half an ear to some lame excuses he was making about "delicate adjustments" and "warm-up periods." Even he did not sound convinced.

"Since you haven't published yet, I can see the need for secrecy," I told Mongosa. "But your research into flare prediction—is it anything an interested dilettante can understand?"

He was visibly relieved at being able to launch into an apparently memorized spiel. "Well, of course, it is a very technical procedure, but I'll try. Computer modeling has shown a 95 percent correlation between a certain type of active-region prominence looped between two sunspots of opposite magnetic polarity, and a subsequent large flare. When a surge prominence occurs in the same region, with a velocity above the critical value, the correlation reaches 100 percent."

I tried to look suitably awed.

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"Fascinating. I suppose you use the H and K lines of Ca II to observe all this activity?"

"Uh, usually."

"Don't you find the images of the sunspots themselves distracting?"

He shrugged. "It's just something you learn to live with. After all these years, I don't even see them anymore."

"No, I suppose not," I agreed. Especially since sunspots lay in the photosphere, while the light from singly ionized calcium came from a few thousand kilometers up in the chromosphere. He would not be bothered by sunspot images because there would be none. If Brother Mongosa was a solar physicist, then I was Queen of the May.

Back in orbit around Mercury again, I waited for my third passenger by the *Syrtis Minor*'s inner airlock hatch, my mood alternating between paranoia and resignation. As the hatch cracked open and released a puff of lock air at slightly higher pressure, my nose began to twitch uncontrollably. Either I was having olfactory delusions, or—

"I had better introduce myself," she said, following her perfume into the ship.

"That won't be necessary, Miss Endywy," I replied, making the best formal bow possible in free fall. "Captain Sergei Cerenkov, at your service." The young lady's face was already familiar from newscasts: the chestnut hair, cut short in the latest style, framed an oval face with classical features and, startlingly, one green eye and one brown eye. What the newscasts had not shown was the body that accompanied the face. She was about one and a half meters tall, with a slender frame that her forty-odd kilos curved outward in all the right places. Those places were accentuated by the one-piece knit she wore—with an effort, I brought my gaze back to meet hers. Since Judith Endywy was also the sole heiress to Endywy Space Lines, she would have qualified as quite a catch, were she not herself a predator. Rumor had it that, at twenty-two Standard years of age, she knew as much about the family business as did her father.

"Well, then, shall we get underway for Snowball?" she asked, flashing a dazzling smile. At that moment I would have been willing to essay the flight without a ship. After tugging her luggage into the *Syrtis* and closing the airlock hatches, I showed her to the remaining sleeping cubicle with all the gallantry I could muster.

The euphoria lasted until we entered the center deck. Mongosa gave Miss Endywy a poisonous glare, then made an angry exit to his cubicle. "Laughing boy over there," I told her, "was Dr. Xavier Mongosa, of the Society of Lucifer. This other gentleman goes by the monicker—"

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"—Philadelphia," she finished. "A CP is something of a celebrity in certain circles I have to associate with. What's the latest bulletin, Philly?"

"You shall see," he quavered, shaking a bony digit at her.

"The otiose delphinium in the primordial ooze
Is refulgent with the apostate's curse;
But only a dacoit of grallatorial grandeur
Will triumph over its tintinnabulation."

"Rot," she said conversationally. She occupied herself by inspecting instrument panels until Philadelphia drifted off in the direction of his cubicle. "I've never been on a ship like this," she observed. "How long will it take us to get to Snowball? And may I call you Sergei?"

"Certainly. As to the flight, it depends on the energy density gradients we strike. We'll be beating into the solar wind most of the way, to get close enough to the Sun to catch the asteroid before perihelion. It will be clipping along at well over a hundred kilometers per second, so we want to meet it, not chase it!"

"All of which is reasonable, but doesn't answer my question. And my name is Judith. *Not* Judy!"

"All right. Judith. We should rendezvous with Snowball in about eighty Standard hours. Once I get us off dead center," I added, feeding the navigation computer its fifth set of course coordinates for the day. The courier shuddered lightly, once, as the plasma jet came to life, and obediently began accelerating Sunward, unreeling the superconducting cable behind her.

Ion engines may be noted for their high specific impulse and economy of reaction mass, but one meter per second squared was close to the maximum acceleration the *Syrtis Minor* could command. Only her ability to keep it up for days on end, drawing power from space itself, made her competitive with other types of vessel. Our weight gradually built up to about a third of Mars normal, giving center deck a definite floor again. "And now we wait," I announced. "Please pardon my inquisitiveness, but what's a nice girl like you doing on a ship like this?"

"Why, didn't you know?" she said lightly. "Snowball at perihelion is the very height of the Grand Tour this season. Even Uncle T.J. is taking a vacation there. I have to make an appearance to keep up my reputation."

"As you so aptly remarked earlier, rot!" I said. "Even I know that the social butterfly bit is protective coloration."

Her answer was a cryptic smile and a counterattack. "As long as we're asking pointed questions, what's a very junior pilot like you doing with his own command?"

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"I often ask myself the same thing. During my misspent youth, everyone said I'd come to a bad end; I think this is it!"

"And just where did you first set foot on the road to ruin, Sergei?" she laughed.

"Now surely you didn't book passage on the *Syrtis* without having the family snoops investigate her humble captain back to his crib days?"

"I was in a hurry, or I would have waited for an ESL liner. On such short notice, all I got was: D. Astro. in only five years at Solis Lacus Academy, currently the youngest courier captain in PCC history at twenty-six Standard years. But they drew a blank on your early background; what *did* you do until you turned sixteen?"

"Oh, I rolled a few drunks, did quite a bit of smuggling, became a passable counterfeiter—"

"Nonsense!" she exclaimed.

"I am quite serious, Judith." I regarded her steadily. "My earliest memories are of the Free Quarter in New Chicago on Mars. I know nothing of my parents; they might even have been Russian!"

"And you took your name from—"

"—my sponsor, S. V. N. Cerenkov—"

"—master thief, saboteur extraordinary, and noted wine connoisseur." Her smile was a bit forced. "We've met, socially. A charming gentleman."

"You almost sound convinced," I told her, trying to look innocuous. "But I've reformed, really I have."

"Even if you haven't," she observed practically, "there is at the moment very little I can do about it."

"I'd say you've done quite enough already today. Calling back what was practically a Society of Lucifer emergency run so you could be charming at tea on Snowball a little sooner—ridiculous! Are you going to restore my shaken faith in human nature and let me in on the secret? Why the devil is everyone in such a hurry to get to that sunburnt cinder anyway?"

"Did Mona Lisa tell?" she asked, smiling.

"Huh?" I said, again displaying my skill at repartée.

She just kept smiling. Maybe it was going to be a long trip after all.

4

Our destination was an asteroid that had not even made it into *Minor Planet Circulars* until 1982. This was due to a combination of low albedo and an orbit (at considerable inclination to the ecliptic) that ranged from just outside that of Venus to within the fiery fringes of the solar corona. It was in most other respects an ordinary specimen of the "vermin of the skies": a rough sphere some two kilometers across, density about that of Mars, no appreciable rotation.

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The Wistar expedition, the first to dock with the planetoid and ride its blazing merry-go-round for most of a 317-Standard-day orbit, was generally agreed to have the proverbial snowball's chance in hell. They had stuck with the asteroid, and so had the name Snowball.

In a classic example of serendipity, that expedition had found a huge airlock hewn out of the asteroid's side. It lay open to space, a gaping wound that would not close. The machinery that was built into solid rock refused to function; everything else was gone. Two more such installations were found, each 120° removed from the first, presumably so that at least one would always be on the nightside.

Those alien works, and the honeycombed interior they gave access to, bore no discernible resemblance to any works of man. Radioisotope dating indicated a minimum age of two billion years. The entire planetoid was shot through with passageways describing various conic sections. Kilometer long parabolas burrowed into Snowball's interior. Huge ellipses followed the outer curve of the asteroid, not far beneath the surface. Rectangular hyperbolas started and ended with no apparent purpose. The whole network gave the impression of a maze of plumbing installed by a fanatic to whom straight lines were anathema.

Every passageway was a perfect cylinder, its marble smooth walls coated with a monomolecular film that radiated intensely in the red and near infrared reaches of the spectrum. The diameter of a tunnel might be as little as a centimeter, or as much as ten meters, but a given channel neither expanded nor narrowed while completing its appointed rounds. The burrows intersected at seemingly random intervals, sometimes debouching onto equally smooth-walled, equally spherical chambers of sundry sizes. Empty tunnels, empty rooms—whatever had done all this had left no portable clue to its or their nature behind.

Brother Morton Wistar had promptly claimed the planetoid for the Society of Lucifer. They had fitted it out some twenty years ago as a Grand Tour resort for those who could most charitably be described as filthy rich, and it had prospered mightily since.

I had flipped the *Syrtis* hours earlier, so that the floor of center deck remained "down" during braking. Acquisition of Snowball's recognition signal had confirmed that the courier was less than a hundred kilometers off the course calculated for her at Sun City. "A good thing, too," I told Judith. "The Sun's pull hereabouts is eighty percent of the *Syrtis Minor*'s maximum acceleration. That doesn't leave much margin for maneuvering."

She nodded, not really paying attention. She had spent most of the

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final approach to the asteroid on center deck, worriedly monitoring the radiation exposure meters. "With all this low-level flare activity, we've each accumulated over a hundred rads this trip. Can't you increase the field strength of the ship's magnetic deflector shield some more?"

"Not really," I said. "I'm pushing the upper critical field strength for the superconducting coils already. If they go normal, they'll vaporize! Surely you made your deposit in the gamete bank before you ever left Earth?"

"Of course I did. I just don't want to spend a week in Snowball's hospital for radiation detoxification."

"So you can be an outpatient!" I retorted. "As I seem to recall asking once or twice before, what *is* the urgent business that everyone has on Snowball?"

I might as well have been addressing a bulkhead. "I think I'll get ready now," she said. "'Bye."

Since Brother Mongosa and Philadelphia had spent most of the flight in their cubicles, fuming and prophesying respectively, I was surprised to see our phony astrophysicist make an appearance moments after Judith had left. "I've been waiting to talk to you privately," he said.

"The acoustics inside this ship are excellent," I pointed out.

Undeterred, he went on. "I would like to have my equipment off-loaded directly onto the surface, at the observatory site, rather than going through the main lock. The logistics of getting it through the tunnels, you know."

"I sympathize, Doctor, but you will remember that the Society has strict rules about incoming traffic clearing through customs. Now, if you wish to speak with Snowball's Director-General about a special dispensation—"

"No, no, that won't be necessary!" he interjected. "I'll just leave my equipment in your cargo vault for a time after we dock. The ship *will* remain for a day or two, won't it?" he asked anxiously.

"At least," I assured him. "I know enough to come in out of the coronal rain." His baffled expression shot one more hole in his cover story, but he seemed satisfied with the answer. He climbed back up the central corridor, and I returned to the navigation console. Computed trajectories are wonderful, but the final approach to a streaking asteroid is a seat-of-the-pants piloting job.

Judith returned while I was trying to establish a viewphone link with our destination. Her presence on board had prompted me to don the only dress uniform I owned, PCC black and silver, with basic jewelry. I still felt like an Earth field mouse beside a peacock. A diamond-studded choker anchored a thin, white strap that dropped precipitously to her waist before

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flaring into trousers of some clinging material. The left half of her body was covered with green make-up to match that eye; the right half was similarly done in brown. The effect was as esthetically pleasing as it was erotic. "How do I look?" she asked.

"Gorgeous," I breathed. "All of you."

We were, of course, coming into a nightside lock. I had already reeled in the power cable, and was bringing the *Syrtis* in on batteries. The asteroid had just eclipsed the Sun when a sandy-haired young man's head and shoulders appeared on the viewphone screen. He took in Judith and myself in one startled glance, then reached for the keyboard before him.

Moments later, an older man with a pencil mustache and the air of a lugubrious basset hound took his place on the screen. "Welcome to Snowball, Captain Cerenkov," he said in a smooth baritone. "And special greetings to Miss Endywy. We hope that your stay with us will be pleasant. If there is anything you require during your visit, feel free to call on me personally."

"We will," Judith promised.

"Excellent," he said. "And now, if you will excuse me—"

"Certainly," she told him, and broke the connection.

"How can I call on him," I asked thoughtfully, "if I don't know who he is?"

"That was Brother Robert Cinader," Judith enlightened me. "He's been Director-General here for the last five years. The previous D-G left in disgrace—some scandal, followed by a general house-cleaning—so Cinader plays it strictly by the rulebook. He's competent, but has no sense of humor."

"Oh." While I digested that, the mooring grapples rose from the surface and closed on the *Syrtis*. The magnetic tentacles attached themselves to the hull with a series of clanking noises, and proceeded to draw the courier slowly toward the dark, jagged expanse below. Three other spacecraft, all larger than the *Syrtis Minor*'s forty meters, also hung just off the ground in the grapples' metallic grip. We had arrived at Lock B.

A silvery umbilical arrowed out from the surface and neatly surrounded the airlock. Mongosa was already waiting at the inner hatch, and bolted through the lock without a word as soon as the pressures matched. I was not to be so lucky with Philadelphia.

"Mark my words," he insisted, perched upon a handhold like a deformed albatross:

"Nauseous lagomorphs ankylose
into asportation.
While the crone is transfigured
into an armadillo;
But only the perfidious sibyl's sly
seppuku
Can lure the maloccluded mala-
mute out of the malmsey."

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"Consider them marked. Goodbye." And good riddance, I added, as he drifted on out in oblivious grandeur.

Judith came up the corridor with all the lithe grace the Certified Prophet had lacked. "I'm starving," she announced. "Would you care to escort me to dinner, Sergei?"

"I think not."

"No?" She arched her back, every inch the playful feline. "Am I that unattractive? Or aren't you hungry?" she asked, licking her lips.

"Famished. But I figure I can just afford a glass of ice water apiece at prevailing prices."

She looked honestly surprised. "Then I'll take *you* to dinner."

"It's a deal."

"Wonderful. I'll see you in the Asteroid Room in an hour." She brushed past me considerably closer than the confines of the lock required, and was gone, arrowing toward the surface in a flurry of fabric and legs.

I was less than half-way back to center deck to activate the ship's prowler defenses when I heard Brother Mongosa calling me. He came back aboard in the best mood he had exhibited since initially boarding the *Syrtis* at Mercury. "Hey, Captain! I've arranged for transportation to the observatory right away; I'll take my equipment now. Open up!"

"That's my job," I said with a shrug. "Come on."

I spent the next twenty minutes tugging, sweating, and cursing at the perversity of massive objects in what was effectively free fall (10^{-4} g). The job went slowly, with precious little help from Mongosa. Mostly he remained in the cavernous reception area, watching with undisguised irritation as the customs inspectors unpacked every crate and checked each item with painstaking care. The head of the team was a pretty, leggy brunette with a glacial demeanor, who double-checked every piece of apparatus with a thoroughness surprising for an "official" Society shipment.

"I wonder what she's looking for?" I said. I had stopped to rest, and stayed to watch. So far, all of

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Brother Mongosa's equipment looked legitimate to me.

"Good question," he growled. "Sometimes Brother Cinader gets paranoid."

"Seems that way," I agreed. Not that I blamed him, with people like Brother Mongosa in circulation—I was making my passenger sign for each and every item as I delivered it to the reception area. "Well, back to work." I glanced at the bogus solar physicist, but he did not take the hint.

Several trips later I brought up the last package, a small one that had been wedged into a corner of the cargo vault. Mongosa was nowhere to be seen. "Where'd he go?" I demanded of the brunette.

"Where did who go?" she asked coldly.

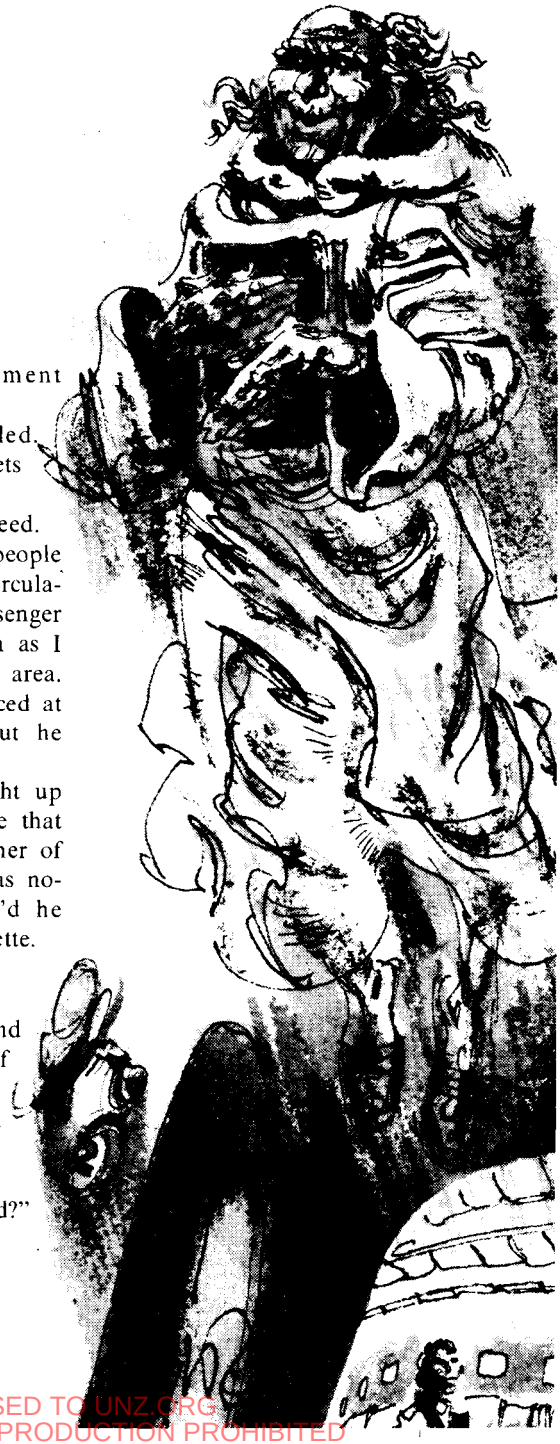
"The man who sat here and glared at you for the last half hour, that's who!"

"He left," she informed me.

"Do tell? And did he perchance drop some hint of his destination before he vanished?"

"No."

"Thanks," I told her, "you've



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been a great help." I started back to the ship.

"Wait," she called. "We haven't inspected that package you're carrying yet."

"You're not going to, either. Brother Mongosa hasn't signed for it yet, and Company rules are explicit about releasing it to anyone else. It's back in the vault for this one," I said, patting it familiarly. For a fleeting moment she seemed to weigh her chances of grabbing the package away from me, then settled for looking cryogenic daggers my way. It was most gratifying.

5

They sent the umbilical back out to the *Syrtis* after I cleaned up. I sealed the ship and dove through the long tube to Snowball. I arrived to find the reception area a three-dimensional chaos of shouting, shoving newsmen trying to break through a phalanx of the System Guard. These Guardsmen's insigniae proclaimed that they were a handpicked elite, their sole function to keep the Speaker of the System Senate from being assassinated, kidnapped, or bothered at breakfast—whether he cooperated or not. For at the center of the whirling confusion, resplendent in purple and gold, stood the Honorable Thomas Jefferson Langan, cracking jokes and fielding questions as fast as they came. Independent, plain-spoken, and mule-stubborn when it suited his purpose, he was good copy any day, and fair game even on vacation.

I worked my way around the maelstrom and reached the customs checkpoint without being either interviewed or arrested. The brunette was still on duty. She gave me a frosty glare, then directed me to a walk-through fluoroscope. Since I had already emptied my pockets for inspection, the only things that registered were my gun and my identification implant. She returned the battered Remington & Turgenev Special without so much as a raised eyebrow, again setting me to wondering about the object of the search. I slid it back into its holster, reclaimed my other belongings, and waited in polite silence.

Finally she asked, "Do you want a pair of adhesive soles for your boots, so you can walk normally?"

"I'm a free-fall baby," I told her, straightfaced. "I never learned to walk." She hesitated again, then waved me on.

One good jump carried me into the lobby beyond. It was certainly big enough, hung with what appeared to be genuine red velvet. "How do I get to the Asteroid Room?" I asked a hard-faced man in SL livery. He eyed me for a long instant, then decided that I need not use the servants' entrance after all. He reached into a nearby alcove and extracted a meter-long torpedo shape from a rack of similar objects. After doing something

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complicated to the set of studs near the front of the thing, he pressed the real leather strap attached to the base of it into my hand.

"Hang onto this homer," he said. "It'll deliver you where you want to go." The homer suddenly took off with a whoosh of compressed air. I was into one of Snowball's famous tunnels before I could get my bearings. The tiny rocket zigzagged by a few other people headed in the same direction at a less headlong pace, but I was too busy holding on to search the torpedo for a speed control. Every change in direction was an exercise in outguessing the homer, so as to have my feet (rather than my head) absorb the shock when I bounced off a wall. I made a firm resolve to kill the Society guard who had delivered me into the contraption's clutches, even if I had to return from the grave to do so.

The homer made one final charge through a sharply curved passageway and hissed to a gentle stop before another rack full of its diabolical kin. A heavily cantilevered young lady wearing little else but a smile took the torpedo from my numbed fingers, pointing the way to the Asteroid Room.

"Over here, Sergei," called Judith, jumping up. I looked toward her—and my hands flew to my waist where my spacesuit controls should have been. Snowball had a reputation for illusions created by skillful use of wraparound viewscreens and holographic projections; this I knew. But my eyes were reporting flatly, that I was unprotected in open space, and why was I breathing? The Sun filled thirty degrees of the jet black sky that rolled out and away from it. The stars spattered across the firmament shone without a trace of atmospheric twinkling. Some ten meters below me lay an asteroid. The jagged rocks and meandering rills were either fiercely bright or in stygian blackness, all the way to the foreshortened horizon.

Several deep breaths later, I was able to appreciate the view for the gorgeous spectacle it was. Judith's initial spring had lost its momentum, and she was slowly drifting back to one of the nests of cushions that I could now see dotting the "floor." I launched myself toward the same spot, arriving in time for a thoroughly pleasant collision. The human maitre d' who had appeared out of nowhere waited impassively for our knot of arms, legs, and laughter to untangle. That accomplished, Judith ordered for both of us. "I don't know quite why," she said eagerly, "but this place has the best food in the System."

I had a suspicion. The menu was innocent of anything resembling a price, reminding me of a historical remark about yachts: if you have to ask how much it costs, you cannot afford it. But then, why flaunt my proletarian status? When the

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"free-fall steak" arrived, I was glad I had kept quiet: it was several orders of magnitude better than the soyaburger I grew up on. The Bordeaux '02 opened a whole new dimension in wines to my delighted palate. Dessert was cherries Callisto flambé. I have been there, and that miserable iceball never produced anything so delectable.

An unseen synthesizer was weaving intricate variations on what Judith identified as a lesser known waltz by one of the lesser known Strausses. A few couples and trios were indulging in the acrobatics that pass for dancing in low gravity, thus earning the obvious censure of the geriatrics set that made up the bulk of the Asteroid Room's clientele. One nearby dowager in particular glared at me with such ferocity that I was unable to devote my full attention to the girl in my arms.

"I think I left a bracelet on the ship," Judith whispered. "Let's go look for it. Now."

"Gladly," I said. We left without ever seeing a bill.

A different shift of SL guards was on duty at Lock B when we returned to the reception area, but one of them unhesitatingly sent an umbilical snaking out to the *Syrtis* without a word having been said. "Must be the company I keep," I muttered, coming out of my euphoric fog. A quick jump away from the asteroid and I was back at the ship's outer hatch. It opened smoothly after I inserted the matching half of an integrated circuit wafer into the appropriate recess in the hull. I checked the various systems lights in the lock; all were in order.

Judith landed behind me as I opened the inner hatch. "Wait a moment," I said, placing a restraining hand on her bare shoulder. I reached through the doorway and ran my hand from side to side, feeling a bit ridiculous. That particular emotion vanished when I found no trace of the polyester spider thread I had strung across the opening before departing for dinner.

"Well?" asked Judith from the airlock, annoyed by the delay.

"An old family tradition," I told her. "Don't trust anything more complicated than a slide rule, and always double-check your credit balance. There used to be a thread across the only access to the interior of this ship, and there isn't any more."

She looked skeptical. "Couldn't it have been brushed aside accidentally?"

"By what? The ship's cat? A hailstorm? You know everything in the *Syrtis* is nailed down—it has to be!"

She was not convinced, but her gaze followed mine down the central shaft to the sleeping cubicles and beyond. "I thought that was for decoration," she observed as I drew my gun.

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"On Earth, I suppose they are." I set it for ten-minute stun, then paused momentarily. "Since you're the back-up force, I'd better see about getting you some artillery. Unless, of course—"

"I have my own," she confirmed, producing a slender dart gun from her bag. I recognized the model: it was ladylike, but quite effective.

Ten adrenaline-packed minutes later, I confessed, "There's nobody else aboard this ship. Since you found your bracelet, nothing seems to be missing, and they didn't leave behind anything larger than a microdot. But *somebody* broke in!"

"Aren't you ignoring the obvious explanation for why you didn't find anything?" she cooed in the tone reserved for mental defectives and ledge-sitting, would-be suicides.

"And the reason the automatic burglar alarms didn't go off?" I added sourly. "Because I'm paranoid, right?"

Judith said nothing. "Look," I argued, "the only reasons a prowler would enter the *Syrtis Minor* are to take something, or to leave something behind. They went to great pains that I not know they'd done it. I can't find any bombs, bugs, or other gratuities. Everything that belongs aboard is present and accounted for." Judith could have given a saint lessons in martyred patience. "Except—no, that's impossible." More silence from Miss Endywy. "Still, if they could jimmy the automatic defenses—" I muttered. She looked at her watch. "All right!" I said in desperation. "Give me two minutes to check a hunch." Still more silence.

I went below to the cargo vault. The lock recorder obligingly regurgitated a complete list of its openings and closings, including the one that had occurred while I was within the asteroid. Strictly as a formality, I opened the vault. The duralloy door retracted into the wall, allowing me to confirm my worst fears: PCC item #3304 was quite, quite gone. Brother Mongosa was going to be *very* disturbed. Unless of course, his talents lay more in the field of breaking and entering than in solar physics. "That's one way to get something around customs without answering embarrassing questions," I said aloud. "Sneak out to the ship in a spacesuit, steal the package, and slip back inside the asteroid by the same secluded lock you came out—probably on the other side of Snowball from Lock B."

"That means, I take it," said Judith from above, "that it just hit the fan?"

"With feeling," I told her. "Does Snowball's communication center have a transmitter that can reach Phobos? Mars is in opposition right now, I think."

"If they can't do it, they'll relay it to Sun City," she assured me. "Time to palaver with the boss?"

"Alas, yes," I said, sealing the utterly barren cargo vault from force

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of habit. Judith got a phone link from the *Syrtis* to Snowball while I was lining up the proper code sequences in my mind. A Company motto, one of many, admonishes: Never Write Down What You Can Memorize.

6

"–XXTR GHHH DEVB. That's it." As the last of my explanation and request for aid sped outward on a tight laser beam, it struck me that the present was an excellent time to get the investigation of the theft underway. It was, after all, my fault that the package had been stolen; the front office thinks that way. My prompt discovery of the loss was a point in my favor. Thanks to that, I might only be demoted to third assistant bookkeeper in the PCC office in Alligator Grove, Louisiana, Earth. Now if I could recover the package myself–

"Sergei, what are you mumbling about?" Judith asked plaintively. "What the hell is going on around here?"

I looked at her, the germ of a plan sprouting in my fevered brain. Either she was an accessory, assigned to get me out of the ship for a time, or else she could be a valuable ally. In neither case could telling her what I knew, or thought I knew, do any harm. "Item one," I said, trying to organize my jumbled thoughts.

"Yes?" she said after a time.

I started over again. "Item one: the *Syrtis* was diverted from her original run for the sole purpose of getting item #3304 to Snowball. Item two: the Society of Lucifer has at least two factions. One of them shipped the package from Mercury; the other is trying to intercept it here on Snowball. Item three: the *Syrtis* was burgled by a highly skilled professional. They cost money, lots of it. Item four: items one through three add up to something illegal, well-organized, and centered here on the asteroid."

"And it all hinges on that package," she observed.

"Yes, that mysterious package," I said. "One thing's certain: whatever was in it was damned important to somebody. To a lot of somebodies, in fact."

Judith looked at me in surprise. "You mean you don't *know* what was in it?" she exclaimed.

"Of course not. Not even the front office knows. We just carry the mail for anyone who can afford our prices. Guaranteed safe, certified confidential. End of commercial. And this business will ruin PCC's reputation if the thief or thieves get away with it."

"Such devotion to your employer is heart-warming," she said.

"The devotion," I told her, "is to an intact epidermis. If I want to keep my job and my head, I'd better recover Brother Mongosa's little bundle before the Company can unleash a flood of bloodhounds on the track."

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"My regards to whoever mixes your metaphors for you."

"Your wit is underwhelming," I said. "Anyway, the only way I can poke into dark corners on Snowball is with the cooperation of the Society."

"I could ask Uncle T.J.," she suggested.

"Judith, this is supposed to be a *secret!*" I lowered my voice a few decibels. "Let's try to keep our relatives out of this mess. Where was I?"

"Snooping. Or trying to."

"Official snooping, that's the key," I said. "Since I can't very well tell Cinader what is really missing, I need a blind. How much is that bauble worth?" I asked, indicating the ornate emerald bracelet she had "accidentally" left on board.

"Why do you want to know?" she hedged.

"Because it's going to be reported stolen. I think. How much?"

"About cr. 30,000."

I whistled softly. "That will do. Although it's probably insured."

"It certainly is. Not that it could be replaced: it has great sentimental value."

"Better yet! Sentimental value, just what we need. Miss Endywy," I said in my most formal tones, "may I do you the honor of stealing your favorite bracelet?"

"Diogenes, hit the road again," she sighed. "I was misinformed." She unfastened the glittering piece and dropped it into my cupped hands.

"And now," I announced, "you're going to deliver the ghastly news to the Director-General himself, and be terribly distraught. That ought to get us some action and open a few doors!"

"Speaking of doors opening, where is my jewelry going to spend the duration?"

"In the vault, naturally."

"Not to be picky, but is that a safe place?"

I smiled grimly. "A point well taken. Yes, it will be very secure indeed when I finish a few home improvements." I unlocked the armory and began extracting various types of mechanical nastiness. "The senior S.V.N. Cerenkov has forgotten more about booby traps than I'll ever know, but a few things did sink into my thick skull."

"I feel safer already." For once, she sounded as though she meant it.

Brother Cinader did handle our complaint personally. His face got longer and longer as Judith explained the problem, like wax sagging in intense heat. Then we listened to him. He was shocked. He was deeply saddened. He was outraged. And he was going to Do Something about it.

"First priority," I suggested, "should go to finding out who broke into my ship." We had not mentioned that the cargo vault was

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also opened; who needs bad publicity? "Broke into it," I added, "while we were at dinner, enjoying Snowball's hospitality."

The barb was wasted on Cinader. He punched a button among the many on his great expanse of desktop, snapped "Get me Jacobsen!" to the air, and released it. "He was Lock B supervisor at the time," he explained, "and should know if anyone even came near your ship."

In less than a minute, one of the viewphone screens on the far wall brightened, framing the alert features of the supervisor. "Yessir?" It developed that no one had gone near the *Syrtis* except the workman who had replenished the ship's cesium supply via an outside access port. "And he was only out there long enough to do what he was supposed to," Jacobsen added.

"Could another man in a spacesuit have sneaked out to the ship?" I asked.

Jacobsen shook his head. "Anything larger than a pinpoint approaching any of those ships would have set off an alarm."

"About that workman," said Cinader. "I presume he took the ferry out to Captain Cerenkov's vessel?"

"Yes."

"Could he have had company?"

The supervisor tugged at his ear. "A small man in a spacesuit," he said slowly. "*could* have just squeezed into the frame of the ferry, so he wouldn't show up on radar. Once he reached the ship—well, sir, the surveillance system is programmed to ignore the ferry, and anyone working around it."

Cinader nodded. "Right. Impound that ferry, and go over it for any trace of a hitchhiker. And bring that pilot down here. I want to talk to him!"

Ten minutes of verbal fencing later, we were still waiting. Finally Jacobsen called back. This time he was obviously speaking from a machine shop someplace. "You were correct, sir," he began. "Several structural members have been pried out of the way, then jammed back into place. An acoustic hologram shows the strain lines clearly. Otherwise, it was a smooth job; no traces."

"How about the ferry pilot?" Cinader wanted to know.

"He's vanished. But no ships have left in the last twelve hours, so he's got to be on the asteroid." He shrugged. "We'll find him."

"I'm sure you will. Have you tried—" Cinader broke off as Jacobsen turned away from the camera pickup to confer with someone.

When the supervisor faced us again, his normally friendly features looked angry and a little ill. "Sir, the pilot has been found, shot twice. The doctor places the time of death within the last thirty minutes."

"I'll talk to you later," the Director-General said abruptly, and

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broke the circuit. He sat very quietly for a time, staring at the blank screen. He seemed not to notice the shocked look Judith sent my way, nor the warning squeeze I gave her hand. "Odd, isn't it," he said, "that such a little thing could provoke murder." His gaze dropped to the level of mine. "Very odd."

When we returned to the *Syrtis Minor,* a message from Phobos was waiting on the INCOMING tape. "RLTZ GRPP BNAW—" Judith read aloud. "I don't understand it, but it sounds ominous."

"Imperative you recover article #3304 at once," I translated. "Item now believed to be artifact extracted from presumed wreck of Outsider spacecraft on Mercury. Due to delicacy of situation, no other PCC agents will be committed unless you cease to contact us. Message ends." I thought about it for a minute. "Delicate!" I exclaimed. "They tell me I'm on my own until I get killed, then have the brass-plated gall to talk about *delicacy!*"

Judith paid no attention to my outrage. "I thought nobody but the sender knew what was in a package," she said.

"This is an emergency," I informed her. "Besides, a little snooping never hurt anyone."

"Pandora will be glad to hear that. In any case, they're right about keeping this quiet. Can't you just see PCC telling the Society: 'We're terribly sorry, but we seem to have misplaced the one and only Outsider triggering device in the entire System!'?"

I tried to imagine it: it was impossible. In fact, I began to think more highly of the prospect of being shoved out an airlock without a suit for some deep-breathing exercises. That would be a positive pleasure compared to what the front office would do to me. "It occurs to me," I said after a long, gloomy silence, "that you recently spent some time on Mercury, left it in a great hurry on the same courier as Brother Mongosa, and seem to know more than I do about the missing article. Exactly what does it trigger, Judith?"

"Trigger?"

"Trigger," I repeated firmly. "A word you used a few moments ago for the first time, remember?"

She opened her multicolored eyes wide, favored me with her most winning smile, and began to deny everything. "Sergei, I am hurt that you would even consider that I might be involved in anything as unsavory as hijacking—"

"Don't forget breaking and entering, grand theft, murder, and mopery and dopery on the spaceways," I added. "*And* impersonating an ingenue. Now do we dissolve our informal partnership, or do you tell me what's going on?"

She looked at me thoughtfully for a time, then smiled. "We are

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partners of sorts, aren't we? You've been honest with me. Father would say that I'm morally obligated to be honest in return."

My acquaintance with moral philosophy had begun and ended with the conclusion that Jean Jacques Rousseau was an idiot. As the senior Cerenkov had once remarked: "Obscurity is not profundity—but it is an acceptable substitute nine times out of ten." None of which provided me with much of a conversational lead, so I kept quiet and waited expectantly.

"It was sheer coincidence," she began, "that I happened to be on Mercury when the Outsider wreck was discovered. When the Endywy agent who first tumbled to it disappeared, I bulldozed everyone else aside and took charge of the investigation. At first I wanted that ship for Endywy Enterprises, for obvious reasons. And I'll still fight to keep it away from our competitors! But other than that, I'd gladly give the damn thing to the System government."

"That's quite a change of heart," I observed. "To what do you attribute this sudden attack of altruism and patriotic fervor?"

"Self-preservation," was the prompt rejoinder. "Those artifacts remind me a little too much of the Koh-i-Nor."

I nodded. The Koh-i-Nor, the "mountain of light," had been the cause of more assassinations, torture, and general bloodletting than any other diamond in history. The East India Company had finally given it to Victoria, then Queen of England, as much to be rid of it as anything else. Their stratagem had succeeded: the Koh-i-Nor had found more than a century of peace before the Crown Jewels disappeared during the Troubles. "And you, I take it, have no desire to be cast as the Rajah of Malwa?"

"Who?" Her expression was one of unaccustomed bafflement.

"The first known owner of the gem," I explained. "His demise followed shortly thereafter."

"Oh. Sergei, sometimes you surprise me with the oddest bits of erudition."

"The result of a strictly utilitarian education," I assured her. "My sponsor wanted me to be able to recognize something of value whenever or wherever it appeared." I gave her my best leer. "I'm sure he'd approve of you!"

Judith could smile with her entire body when she wished to. "Do *you* approve of me?" I considered and rejected several replies in rapid succession: I was having trouble putting my feelings into words. Finally I just gave up and kissed her. A long minute later, she breathed, "I certainly approve of that!"

I slowed my racing pulse by an effort of will; autonomic nervous system control has its uses. "I'm glad it passed inspection," I told her. "And now, partner, suppose you make like Philadelphia on the

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subject of the missing artifact?"

"You mean our fearless swami, who sees all, knows all, and blabs a damn sight more?" she inquired, disappointed.

"The same."

"Does this mean you're not going to marry me after all?" she asked melodramatically. Before I could answer, she struck a tragic pose and began to declaim to the walls of center deck: "I'm ruined! I'll have to enter a convent! No, wait, I'll kill myself!"

"I'll save you the trouble," I grinned, "unless you tell me what Brother Mongosa's package triggers."

Judith eyed me speculatively, then capitulated. "OK—partner. Here's what I know, or have guessed. It seems this old coot was poking around in a slightly radioactive pile of rubble near Mercury Mining Base 2, and got curious enough to start blasting. Before he was done, he'd unearthed an assortment of obviously machined metal objects. None of them were straight: just miscellaneous conic sections, some of them even coated with the same glowing film as Snowball's tunnels.

"Even more interesting, the pieces seemed to fit together as a skeleton spaceship—and I do mean skeleton, as thoroughly ventilated as a sieve. Either the Outsider in that ship breathed vacuum (unlikely, since Snowball has airlocks), or else there was some kind of force field holding the atmosphere in!"

"I'm reminded of the paleontologist who glued a dozen sets of baboon bones together to make a *Tyrannosaurus rex*," I opined. "I'm more interested in the radioactivity that led him to the wreck. There's not going to be much hot stuff left in a reactor after two billion years."

"A conventional fission reactor it wasn't," she assured me. "He found a sphere about three meters in diameter, radiating energy along most of the electromagnetic spectrum. It was the Outsider's power source, must have been: jamming his suit radio with static, warmer than the rock it rested in, glowing white, and emitting enough UV and gamma rays to make him want to put distance between him and it.

"Naturally he looked around for something small enough to take back to base with him as proof-of-claim. That's when he found the trigger: a black egg the size of his fist, wedged into the power sphere, with a small hole in the exposed surface."

"Soon to become item #3304," I put in. "I gather the opening has something to do with the object's function."

"It's the only candidate," she told me. "There's apparently not another mark or blemish on the whole egg. It seems that when the old guy stuck a piece of wire into the hole, the power source stepped

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up its output exponentially. He removed the wire, and it stabilized at that level. He inserted the wire once more, and the big sphere's wattage dropped off just as drastically—until he pulled its plug again."

She paused for breath. "Anyway, our prospector gave himself a bad case of radiation poisoning finding out how the trigger worked, and spent the next week in bed. I heard about it after he was transferred to the Sun City hospital, just before he vanished."

"And so you think the Society on Mercury—"

"—or some faction thereof—"

"—snatched him, his claim to the wreckage, and the triggering device itself," I finished. "The how's and why's are a little vague, but the immediate question is clear enough: who's got our do-thinger that does these things?"

"Right. So what do we do first?"

"Quiet, wench, I'm thinking." Silence reigned. "At least I think I'm thinking." Still more silence. "All right," I told her at last, "step one is to move to a place within Snowball. Out here we're too far away from the grapevine. Also, if I leave the *Syrtis* untended, perhaps a rat who hasn't gotten the word yet will walk into my traps."

"Check. And step two?"

"Don't rush me!"

7

A day of lavish bribery and pointed questioning later, the situation was just as tangled, but at least I had hold of a few threads. Inquiries directed to the head astronomer of Snowball's mobile observatory (fixed installations would have been useless half the time) had produced the expected result: Brother Xavier Who? The solar magnetograph and other equipment had finally been collected by someone from the observatory. Of the bogus astrophysicist there was no trace. The equipment was supposed to have made the trip from Mercury unaccompanied, and Mongosa had simply attached himself to it by judicious forgery and bald-faced lies. The only certain thing was that he was indeed a member of the Society under some other name; he knew all the procedures too well.

Philadelphia, on the other hand, was more in evidence than ever. I had seen him four times in twenty-four hours, wherever there was a crowd, delivering himself of incomprehensible predictions and raking in pledges of fiscal support for the Church.

The probable burglar of the *Syrtis Minor* had turned up. Fingers Fuqua, one of the best men with an electronic lockpick in the System, was describing a leisurely orbit around Snowball without a spacesuit when he set off an alarm and was hauled in. Someone had made a concerted effort to obliterate his identity, to the point of de-

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stroying his ID implant with a laser. As a result, I had to officially identify the body for Cinader by a unique acid burn Fingers had suffered years earlier on Mars. "The poor fool," I said, shaking my head, "never knew when to turn a job down."

"I cannot bring myself to feel much sympathy for him," said Cinader coldly. "He did, after all, kill one of my men."

I looked at him, astonished. "Fingers kill someone? Don't be absurd! Whoever shot the ferry pilot got rid of Fingers within minutes thereafter—as an autopsy would show if he weren't so messed up."

"You may be right," he conceded. "But two murders for a single bracelet strains the imagination. Captain, are you quite sure that nothing else was taken from your ship during the theft?"

"Would I lie to you?" I asked, oozing virtue from every pore. Brother Cinader maintained a tactful silence in reply.

Another installment of alphabet soup from Phobos had informed me that, as far as could be determined, the rest of the Outsider wreck (power source included) was still on Mercury. Which meant that somebody had found something somewhere on Snowball that they felt a trigger would somehow activate, to some unknown end. All of this added up to a discouraging lot of indefinite pronouns, adjectives, and adverbs.

"For example," I was saying to Judith, "who relieved Fingers of the package and then spaced him?"

"Could it have been one of Gunther's or Quadbeck's men?" she asked, referring to the two groups of hired guns that had surfaced within the asteroid. Gunther's organization specialized in the bloodier forms of industrial sabotage, while Quadbeck's group was expert in the theft and fencing of top-secret technology.

"Unlikely," I decided. "It's not so much a matter of honor among thieves as of good business sense. Nobody will deal with a man who's as likely to liquidate his customers as his debts."

"That makes sense," she agreed. "But they aren't here for the social whirl. I wonder who's meeting their payroll—the Society?"

"Hold it! You can't just lump Gunther and Quadbeck together like that: I'd bet many credits that they're operating independently. Herr Gunther is so suspicious he's paranoid, while Quadbeck is not the most trusting of souls, either. It would be a risky proposition for a single employer to hire both. Their personalities would interfere with the job."

"Whatever that is," she mused. "There's certainly enough firepower available on this rock: about forty hired guns, an equal number of SL guards, and twenty System Guards."

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"The Guard will stay out of this," I opined. "But I wonder which faction of the Society the Snowball security force is loyal to?"

"For now, they're taking Cinader's orders," Judith said, "and turning the place upside down. They're looking for something besides an emerald bracelet, too!"

"So they don't know who has the trigger, either."

"Well, there's not much to be gained by pooling our ignorance," she said glumly. "We don't know who, we don't know why—but the when isn't too hard to figure out. Perihelion is less than thirty Standard hours away, which will cut off outside communication by ship or comm laser. Joy, our own private war."

"It's hardly organized enough for that. I suspect that nobody else knows what the hell is going on, either. If things get any more confused—" I stared abstractedly at the mural that dominated our suite, an idea struggling to form. (PCC had thoughtfully put me on an expense account until my anticipated demise, and a three-room suite was Snowball's closest approach to economy lodgings. Filthy rich, remember?) Finally Judith became impatient and began gnawing on my left ear. I patted her where it would do the most good, then rose. "See you later, beautiful. I have to see a man about a calamity!"

Herr Gunther was shorter than I, but his 150-kilo bulk commanded attention, a massive presence in the unused section of Outsider tunnel chosen for our private meeting. His faintly diabolical air must have been due to the lighting provided by the previous occupants, or at least so I kept telling myself. "Well, Captain," he rumbled, "what do you want to see me about?"

"I have reason to believe,"I said, "that we have a business interest in common. A small package, sealed as PCC #3304, containing a black egg the size of your—uh, make that *my* fist."

"Could be." Hard, calculating eyes peered out of the folds of flesh. "I trust there's money involved?"

"Naturally. Do you have the item in question?"

"My boy!" Gunther exclaimed, obviously shocked. "You're ignoring the niceties. Let's just say I have a friend who has a friend."

"I hope he's not a very close friend," I said solemnly.

"Why's that?" he demanded.

"Because the artifact that was stolen from my ship was a fake, a plant. PCC cooperated with Society headquarters on Venus to smoke out the dissidents."

The fat man looked thoughtful. Tangling with the Society of Lucifer was like inspecting a lion's tonsils at point-blank range: you either got your head out before closing time, or not at all. "Why

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should I care about that?"

"It's just that I hate to see innocent people killed," I proclaimed piously. "That egg has a microbomb in it that's going to vaporize the immediate neighborhood when it goes."

"And when will that be?" Gunther was definitely thinking now.

"Sometime in the next twenty-four hours. I don't know any more than that—I'm just a pilot."

"And the money you mentioned?"

"Cr. 50,000 for its return in the original container, so we can disarm the bomb. The Society doesn't give a damn about the thieves, but they'd rather not have a hole blown in their asteroid if it can be avoided."

He nodded ponderously and turned to go down the corridor on his magnetic sandals to the homer presumably waiting around the bend. Then he looked back. "Say, Captain, are you any relation to *the* Sergei Cerenkov on Mars?"

"Adopted son," I replied.

Herr Gunther considered that for a few more steps down the tunnel, then turned around again. "If the Society didn't want their property blown up, why'd they put a bomb in the egg in the first place?"

"They didn't confide in me. Maybe they didn't expect it to wind up here in Snowball. Anyway, haven't you ever had second thoughts about something?"

"Yeah, I have," he said. "I sure have." He passed out of sight, leaving me alone in the blood red tunnel.

Less than an hour later, in another unused section of tunnel on the opposite side of Snowball, I found myself talking with Lars Quadbeck. "I owe your father a favor," he began, "and I think you could use a little help just now. My men, alas, are under no such obligation. But if there is something I alone can do—" He looked at me expectantly.

I considered the offer. I dredged up from my memory the information that Quadbeck was indeed telling the truth about his debt to my sponsor. I also remembered why I did not want him at my elbow as things got even stickier. He was too likely to shoot first, and leave me to answer the questions afterward. "How about some information?" I asked.

"Sure." He seemed relieved.

"Who's got the artifact?"

"A fellow who calls himself Mongosa." His description confirmed that it was my errant passenger.

"What's he done with it?" I inquired.

"Absolutely nothing," Quadbeck chuckled. "He wants to get into this chamber down in the heart of the asteroid, but Gunther's men have the only entrance surrounded. But they can't get in, either: there's a meter-thick duralloy door set in

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solid rock, and booby-trapped six ways from Sunday.

"So it's a standoff. Mongosa has the artifact and the combination to the room—Gunther's got the room itself—and they can't agree on the percentage split of anything else." He laughed heartily. "It seems Gunther doesn't trust Mongosa since he spaced Fingers, and—are you ready for this? Mongosa doesn't trust Gunther because he's a *crook!*"

"Poetic justice," I agreed. "And I doubt that the prospect of their assets going up in radioactive plasma has made anyone sleep better."

"Amen. Say, is that really true?"

I trotted out my favorite line. "Would I lie to you?"

"Undoubtedly," he said. "But I'll back your play. And if I hear anything else interesting, you'll be the next to know."

"Thanks," I said sincerely. "I appreciate it."

"The ship is experimental, designed to operate within the corona," I told the young communications supervisor in Snowball's control center. "I've seen it, a great big thing, must hold a hundred—oops! Forget I said that! Anyway, it's due in from Phobos just before perihelion. I knew you wouldn't be expecting any traffic then, and I didn't want any of your people to catch hell for missing the approach." The supervisor was properly grateful for the tip, and promised to spread the word discreetly. That red herring launched and swimming strongly, I departed.

Other rumors, not traceable to me, were planted elsewhere. The whole thing was a hoax: the wreckage had been planted by enemies of the Society. Director-General Cinader was going to flood the asteroid with knockout gas and exit for parts unknown with the triggering device. The Outsiders were coming back any day now. As we surveyed the gloriously mangled form in which such tales returned to us, Judith and I agreed that the general level of confusion and mistrust was soaring.

The artifact had been stolen Wednesday night. Friday morning brought two messages, bad news and good news. The first read: "They've made a deal. Watch out. Q."

The good news was the first concrete return on our investment of time, money, and inspired prevarication. It was a hastily scribbled note on a ragged sheet of newsfax slid under the door of our suite. It said: "Bring that cr. 50,000 in cash to the Devil's Eye at 0930 and you'll get your package back. Don't tell anyone about this, or they'll try to stop me."

That "they" would try to stop the transaction, I did not doubt. Unless, of course, "they" had written the note to lure me outside. The Devil's Eye was a broad, shal-

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low cave on the surface that resembled a jet black, peering ocular from a distance. At a distance was definitely the way to appreciate it, too. The Eye was presently right in the middle of the dayside, and perihelion was a hundred and thirty kilometers closer with every passing second.

In short, it was an excellent place for a secret trade—or a regrettable "accident."

8

Since my destination was just over the horizon from the current location of the observatory complex, I had a ready-made cover story. I had no trouble borrowing transportation from the SL equipment master at Lock A, one Aloysius O'Rahilly (pronounced O'Reilly, thank you). He thought I was crazy. Recognizing a kindred soul, he cooperated enthusiastically.

The preferred means of locomotion this close to the Sun was a heavy duty version of the sleds I had once driven on Mercury: a brightly silvered hemisphere about three meters across, festooned with various sensors and waldoes. The one nearest the lock was ready to go.

O'Rahilly helped me wriggle into it and adjust the couch to a passable fit. "Systems check," he announced. "Batteries?"

"Full charge," I said.

"Liquid air tanks?"

"Topped off."

"Solid nitrogen coolant reservoir?"

"Full."

"All pumps functioning?"

"Check."

"Life support?"

"It's just beautiful in here," I assured him.

"OK, get moving. And mind you don't fly too high. This ball of rock's got little enough gravity that you could say good-bye to it forever with a hearty sneeze!"

"I'll keep it in mind. Honest."

Having done his duty, O'Rahilly signalled to one of his men, and the great inner door of Lock A began to move. I opened the sled's baffles enough to lift it off the ground slightly, then diverted some of the escaping air to the rear, nudging the cumbersome vehicle forward toward the widening aperture. Fortunately there was as yet no sign of Mongosa's predicted 2+ flare.

Once on the surface, I oriented myself by the sled's inertial guidance system. Satisfied, I set a course for the Devil's Eye and settled down to some careful driving. A ground effect vehicle is skittish in the turns even in a strong gravitational field; on Snowball the drifting was uncontrollable.

Having to navigate by television did not help either. Still, at a distance of twelve million kilometers from its photosphere, the Sun fills one sixth of the sky. Every exposed square centimeter is flooded with

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166 calories per minute, as compared to 2 at the Earth's surface. Under such conditions, an opaque, highly reflecting hull is far more important than a tourist's eye view out a porthole.

The rocky desolation I was passing through had almost lost the ability to bubble and seethe in the intense heat; many things are still solid at 1400 K. I tried to think of some, but was continually distracted by the sled's various thermometers. Repeated layers of mirror-bright metal, hard vacuum, and cooling coils through which liquid air raced, were keeping the hull down to a comfortable 800 K, and the interior at room temperature. But I watched the gauges anyway.

My destination showed up first on an infrared scan: very large, very cold. When cautious reconnaissance showed nothing unusual in the immediate area, I steered the sled into the cave mouth at the appointed hour. The hull temperature began dropping at once. If the sled remained in this shadow very long, I would have to turn on the heaters. I played a short fugue on one console and the searchlights went on, providing better resolution of the scene before me. The television camera panned across the jumbled, stony cave floor that was little above absolute zero. There, in a recess about ten meters away, was another sled.

We edged toward each other cautiously, until the two vehicles were almost touching. A claw-end waldo extended from the other sled, proferring a small package. I stepped up the magnification and examined it painstakingly. It possessed the original PCC seal #3304, so at least the wrappings were genuine. Another waldo came up and extracted from the package a fist-sized black egg. Microscopic inspection of the egg revealed only a single pit in one end; a diamond drill bit failed to scratch the glossy surface. It fitted Judith's description of the triggering device perfectly. Since the Outsider power sphere that would have provided the ultimate test of the egg's authenticity was on Mercury, that would have to do.

I slowly extended a manipulator bearing fifty cr. 1,000 disks to my unidentified benefactor. The exchange was made with careful, deliberate motions. As I tucked the precious artifact and its packaging into one of the sled's storage pockets, the other vehicle was already moving away as fast as prudence allowed, and a bit more.

I set a more leisurely pace. Back in the blaze of day again, I made a routine IR check of the torrid landscape. A second scan confirmed the results of the first: two medium-sized objects, surface temperature about 800 K, were converging on us. I am not by nature unsociable, but I had a sudden urge to travel in the opposite direction. The impulse died aborning, for a third

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sled was completing the circle around us. I promptly steered my vehicle toward the roughest terrain around, a hash of craters and small but craggy peaks. We would see who was better at playing mountain goat!

The sled's hull temperature suddenly rose nearly a hundred degrees, then stabilized. "A laser," I said aloud, "isn't going to faze this crate one bit." My pursuers obviously came to the same conclusion moments later. The unusual heat load slacked off, and something exploded far to my right. Further explosions bracketed my position.

The other fleeing sled was making a run for it on the open plain. It had almost broken out of the tightening circle when several detonations landed almost on top of it. A cloud of debris hung over the spot, but the sled did not emerge. IR scanning reported a rapidly expanding cloud not much above absolute zero—as though a mass of liquid air had suddenly puffed out into a vacuum.

The attacking sleds pulled into a new formation, a pincer designed to cut me off before I reached my goal. I increased speed still more, hoping that I did not run onto a natural launching ramp. As the big rocks drew nearer, I took an inventory of my sled's equipment. Discounting the comm laser as ineffective, nothing useful as a weapon presented itself.

My pursuers obviously had no such problem. Not only that, their aim was improving. The debris that was not blasted clear of the asteroid hung all about me, in no particular hurry to fall, obscuring my vision.

"And theirs!" I exclaimed. Doing rapid mental calculations. I threaded the sled through a boulder field and jumped it across a crevasse. A near miss made me veer onto a forty-degree slope covered with loose rock. The vehicle side-slipped down the hill, starting a slow-motion rock slide. Fortunately, only the smaller pebbles were kicked up against the hull, drumming steadily on the sled's outer skin.

The slide gathered momentum, carrying the vehicle headlong toward a gaping crater at the bottom of the scree. The shifting, churning rocks made it even harder to maneuver the sled. There seemed to be a magnetic attraction between it and that exceedingly deep hole in the ground. "No time like the present," I observed, and applied maximum thrust up and back. I must have vented half the sled's supply of liquid air at once, rocketing the vehicle away from the asteroid's surface. A second later, an explosion blasted the place I had been. All that escaping vapor ought to look a great deal like a sled blowing apart!

My hope for a short breather while reports of my demise circulated was dashed almost immedi-

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ately, as my sled sailed high over the observatory. The astronomers would probably report me as a UFO or a damned peculiar sunspot. Whoever was chasing me would draw the correct conclusion soon enough.

It required some fancy flying to keep the sled on a trajectory for lock A: a spacecraft it was not. Still, I had plenty of time to correct the mistakes I made in the negligible gravity. I undershot my destination slightly, and cautiously crept forward. The sled handled smoothly once back on the ground; the one-sided Battle of Devil's Eye had not damaged it.

O'Rahilly personally extracted me from the vehicle's steamy interior. "I forgot to warn you," he said, "that near perihelion the Sun's pull can trigger a quake or two. Our seismograph has been going crazy the last few minutes. Did you see anything unusual while you were gadding about?"

"Not a thing," I assured him. I managed to retrieve the object of my labors from the sled's exterior storage pocket, and left. Thoughts of the *Syrtis Minor*'s vault, and of our suite's shower, jostled each other for priority. Security for the Outsider artifact won, so I headed for the ship.

9

None of the traps I had set on board had been sprung, so I spent ten minutes disarming them one by one. Not for the first time, I wished for one of the sophisticated computer complexes that could control a ship's defenses as well as navigation, life support, and such. Unfortunately, putting one of those in a courier would have been akin to installing an auto-bar in a spacesuit: as impractical as it was expensive. And I still would not trust the thing.

I returned item #3304 to the cargo vault with a sigh of relief. The duralloy door had never looked so good. Still reflecting on the relative cussedness of man and machine, I worked my way back to the outer hatch, re-setting my traps.

Judith was gone when I returned to our suite, but I was too intent on a shower to be concerned. I emerged some minutes later, feeling more human, to notice that a message had been recorded for me. I punched the PLAYBACK button, and Judith's strained visage looked out at me. "I'm afraid I blew it, Sergei," she said with a little laugh that had no humor in it. "I'm being held by some people who propose a trade: me for the Outsider trigger. If you're interested, you are to leave the artifact at intersection 790 and go away. Naturally, you are not to bring anyone else in on this, especially not Cinader. That's about it."

Someone off-screen muttered something unintelligible, and she shook her head in a definite no. More insistent rumblings got the

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same response. A large, meaty hand came in from the left and caught her on the point of the chin; she crumpled without a sound. Then the screen went blank.

This time I went to the *Syrtis* openly. For Judith's sake, my actions had to look like the most literal cooperation with Gunther's demands. (I recognized that beefy paw on the screen.) Obviously the Mongosa-Gunther partnership was still a going concern.

Once on board and safe from observation, I used the ship's tiny machine shop to produce a respectable duplicate of item #3304. It differed from the original principally in containing knockout gas rather than the black egg. I considered including the advertised microbomb, but my sponsor's advice came to mind: "Never do anything irrevocable if you can avoid it, son. An unconscious man is out of your way as effectively as a dead one. And if you're ever in his way, he may return the favor." I had my doubts about the good will of the thugs I was up against, but I had Judith's safety to consider as well. Knockout gas it would be.

Headed as I was into their den, some lion repellent seemed in order. I began stocking my pockets with assorted nonlethal nastiness; I did not stop until I was a walking armory. As a final precaution, I changed the *Syrtis Minor*'s booby traps around for greater flexibility. Having done all I could in the time I had allotted myself, I sealed the ship and returned to Snowball.

A homer brought me to within three intersections of #790 before quitting for no apparent reason. I was unable to reactivate the contraption, so I went on without it. Making as much noise as possible, I negotiated the sharply curved tunnels to my destination. I deposited the fake package at the specified intersection and ostentatiously retreated the way I had come. As I had half expected, there was no back-up squad in the area. I was able to sneak back to the site in time to see several of Gunther's men retrieve the container and disappear down a different passageway than they had emerged from.

Thirty seconds later I heard a hissing sound. Making sure my nostril filters were firmly, if uncomfortably, in place, I located the origin of the noise. It was a small room, bare except for the bodies littering it. Several of Gunther's lieutenants had obviously planned on going into business for themselves. Judith was probably being held in what passed for headquarters, which ought to be in the opposite direction from slumberland here.

I had gone perhaps fifty meters along what I hoped was the correct tunnel when noises up ahead confirmed my guess. It was most likely an armed party sent after the first set of flunkies. They were almost in

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sight, and there was not a room or even a sharp angle I could hide in. I stopped hunting for concealment, instead extracting several cartridges from a pocket. I loaded them into their tiny launcher and fired them off in rapid succession. First a light bomb to temporarily blind anyone with their eyes even slightly open, then another gas bomb, and finally a load of Clinging Vine.

I had to tap one skull rather firmly as I passed by the tangled mass of men and incredibly sticky ropes of polymer. They were all underlings, though; I continued on my way.

I recognized my destination by a loud argument in progress among Judith, Gunther, and Mongosa. "Of course ESL is interested in these artifacts," she was saying impatiently. "But we want to know what we're buying before committing the money and manpower!"

"Miss Endywy," Gunther growled, "we have reached an impasse. You don't trust me—"

"Should I, after the way I've been treated?" she snapped.

"And I can't trust you," he finished.

"Look, damn it!" she exclaimed. "I'm delivering the trigger and that poor jerk of a captain to you—isn't that evidence of good faith?"

"Thatagirl, Judith," I whispered. "I know you're trying to talk your way out of this mess, but help is on the way." I eased up to the open doorway, marked the position of the electric eye alarms, and dove through the gap. I was braced against the far wall with my gun levelled before Mongosa, Gunther, or the two musclemen had a chance to react. "OK, one at a time, throw the hardware in the corner." Once they complied, I offered Judith a hand. "Time to get the hell out of here!"

She did not move for a moment. "Sergei, you *did* bring the real artifact along? Just in case?"

"That's an odd question to ask right now," I told her. "But the answer is yes, I did," I said, holding up the egg. "Just in case."

She nodded. "Good. And I'm sorry about this, I really am." She pulled her dart gun from under the couch and fired once. I felt a coldness at the side of my neck, and things suddenly got hazy. The last thing I heard was Judith saying, "Don't worry, it's lethal." I was out before I hit the wall.

10

I woke up, which was a surprise. It was also a mistake. They must have been blasting hard rock in my section of Hell, part of a rapidly expanding subdivision. At every impact my head threatened to shatter, but I was not to be that lucky. Instead, something shook my aching body vigorously, and a voice demanded, "Wake up, Sergei! *Please* wake up! They're going to break down the door soon!"

"Stop," I croaked, "just—stop."

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"Wake up, will you?" the voice cried. "I used all the antidote I dared. You've got to get moving!"

"Judith?" I asked doubtfully. "So they killed you next. Serves you right."

"Sergei, you're not dead. Yet. But we've got to get out of here or Gunther will remedy that little oversight. For real, this time!"

My strength was returning rapidly, so I opened my eyes a slit. Judith was crouched over me, her chestnut hair disheveled, her clothing ripped, a trickle of dried blood at one corner of her mouth. Her green and brown eyes were alight with excitement and concern. She was beautiful. "Antidote?" I blurted. "You mean you're not one of them?"

"If I were, would I be here?" she asked. The door to the tiny chamber was beginning to creak alarmingly, and I decided that there must be other, better places to untangle Miss Endywy's motivation. I came to my feet and the two of us made a wobbly exit into a tunnel. "I had to convince Mongosa I was on his side so he'd show me where they were keeping the Snowball artifacts," she explained. "Faking your murder with a specialty drug ESL developed was necessary."

"But not that pleasant for the corpse," I informed her. By now we were flying through the passageways with our best free fall technique. A loud crash behind us indicated that the door had given way. My pockets had been methodically emptied while I was "dead," and I was feeling singularly defenseless. "Did your scheme work?"

"Beautifully," she panted. "The vault is huge; I don't understand why nobody else knows about it except Mongosa. It's just full of Outsider equipment in mint condition—and every one of them is powered down to zero! That's why he had to have the trigger. Oops—a welcoming party." Several armed men had emerged from the next intersection, but had not yet caught sight of us. "This way!" Judith commanded. She ducked into a side chamber that gave onto another, larger one.

"Not that I'm complaining," I said, breathing hard, "but do you know where you're going?"

"Gunther had to look at a map of their complex to locate the artifact storeroom; I memorized it. This ought to get us back to the main tunnels unless—" The "unless" materialized in the form of shouted commands to search everywhere, emanating from one of the rooms ahead of us. We zigged while they zagged, and found ourselves in another tunnel. "I have the sinking feeling," Judith told me, "that we're—"

"—lost," I finished.

"Oh, no, we're not lost. Just surrounded."

"You had me worried for a sec-

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ond; I'm glad it's nothing serious," I said. "Well, what sort of superweapon can we assemble on the spot? I can contribute the clothes I'm standing in, and a vile headache. How about you?"

"The same. Plus the trigger I liberated from Herr Gunther before leaving."

"Which is useless all by itself. Say, where *are* they keeping all these Outsider gadgets?" I inquired, a thought struggling to form between the rhythmic, throbbing pains.

"Behind five meters of solid rock. Except, of course, for the duralloy door installed on the hole somebody drilled to get at the cache in the first place."

"Judith," I said thoughtfully, "would you say that most of the gang is running around trying to catch us?"

"Undoubtedly."

"Which would leave the artifact room more or less unattended, right?"

"Right!" she exclaimed. "And the one or two men still on guard duty would be armed, but not too alert. Sergei, let's go get some guns!"

We stood before the vault door, staring at the thoroughly deserted guard post. The excitement of the chase must have been too much for the flunkies assigned to wait here. They had left behind nothing more lethal than a coffee bulb of lukewarm mud. Meanwhile the hunt was closing in on us from all sides. "Any ideas?" I asked my companion.

"My genius is feeling a bit rushed just now," she admitted.

"We need a delaying action," I observed. To postpone the inevitable, I added silently. I turned my attention to the massive metal door, and discovered that someone's laziness was our gain: door had simply been slammed. Out of practice as I was, I had it open in seconds. I jammed the mechanism beyond repair, motioned Judith into the silent cavern beyond, and pulled the vault door shut behind us. A shout from our pursuers was cut off by the slamming door. "That tears it!" I exclaimed. "They might have spent all day double-checking the closets for us, but now they'll burn through the door as fast as possible."

"It seems the rock walls would give way faster than the metal," said Judith.

"Given that they can't use high explosives without the seismic waves arousing unwelcome attention, I doubt they'll go that route. Say, this room isn't part of Snowball's air circulation, is it?"

"I don't think so."

"Then we're safe from gas. The door it will be; it could take as little as an hour. Although even this barn," I added, staring at the distant ceiling of the Outsider storeroom, "could get stuffy by

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then. OK, wench, let's see if the former tenants left us a deathray!"

The chamber was brilliant with the glare of hastily rigged fluorescent lights. It was strange to see human fingerprints on the great, soaring sheets of metal: alien curves still draped in the rockdust of two billion years. I wished that whoever had first pontificated that "form follows function" could have admired that silvery ovoid that stretched ten meters ceilingward before mating with a rectangular hyperbola. It could have been a skyhook, or a gargantuan can opener.

Judith let me stand among the enormous, metal ghosts for a minute before tugging me over to the far wall, where the smaller artifacts had been collected. "We'd better start on the contraptions we can see around without a periscope," she pointed out.

"Right." I inserted the black egg into a likely-looking object. "OK to turn up the juice?"

"Fire when ready, Gridley!"

"Who?"

"Never mind," she said, brushing her damp hair back from her face. "Your education in the classics has been sadly neglected. Anyway, here's an insulated screwdriver that Mongosa was using."

"Thanks. I think." I poked it into the trigger's single opening for several seconds, then withdrew it. The artifact did not seem to have changed. It was still a meter-long boomerang of a splotchy blue plastic, rather too thick in the middle where the power source presumably lodged.

Not having any of the advice-giving type of angel around, I bent over to pick the thing up. A two or three centimeter spark packing considerable amperage jumped to my fingertips. "Damnation!" I yelped, back-pedaling so furiously that I lost contact with the floor. Judith caught me as I went by. This time I used the screwdriver to probe the charge distribution on the boomerang's surface. It turned out to be a uniform field, except near the egg I had implanted; no other controls were visible. "Truthfully, I don't think this gadget has much of a future as a superweapon," I said. "In fact, I can't offhand think of any potential use for it. So to speak."

Judith groaned, then suggested, "Maybe it was an Outsider's electric back scratcher?"

"Assuming that they itched. Assuming that they had backs. Assuming—Oh, forget it!" I carefully turned the thing off, and retrieved the trigger.

The next artifact that presented itself was a collection of right-angle cones, each with an altitude of perhaps fifty centimeters. The five cones were fused into a solid mass, apparently welded where their points converged in the center of the device. "Now where," I puzzled, "do I activate this solid geometric nightmare?"

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Judith found a likely looking spot, a depression at the base of the scarlet cone. (The other four were assorted shades of crimson and hot pink.) I snapped the trigger into place and powered up the artifact. Once turned on, the cones were blessedly free of electric shocks and other hindrances to investigation. Each cone was ringed with a set of lightly indented grooves. I laid my index finger across the bottom ring of the nearest cone, and an awful screech filled the chamber. "You killed it!" Judith said accusingly.

Giving her helpful comment the reply it deserved, I moved my finger up a groove. This time the squawk was subtly different. As I rapidly ran through the rest of the grooves, a sequence of screeches and howls of steadily rising pitch reverberated through the storeroom.

"It seems," I said, "that this is some sort of musical, if you'll pardon the misnomer, instrument."

"You're excused." She repeated the procedure on a different cone, obtaining much the same effect of a scale, albeit with varied noises. With both of us manipulating the device, the cacophony rose to a climax of sorts. We stopped simultaneously and rubbed our ears. "So much for that!" Judith exclaimed. "But what are we going to do with a functioning set of Outsider bagpipes when Gunther and his goons break down the door?"

"Point it at them and scramble their brains?"

"What brains?"

"All right, their larger ganglia."

She smiled briefly. "Let's keep it in mind as a last resort. Which gadget do we diddle next?"

"We're running short on time," I observed. "There's got to be a logical way to identify which artifacts would be useful to us."

"Useful for what, is the question. Our main aim is to get the hell out of here."

"To accomplish which, we've been looking for a weapon to fight our way out."

"Right," she said. "With precious little success. So maybe we're going at it the wrong way. Could there be some means of escape that doesn't involve a pitched battle?"

"Like an invisibility machine?" I ventured. "Whatever it is will have to come from these misbegotten relics. I don't even have a penknife to tunnel with."

"Besides, this prison has awfully thick walls." She squared her slender shoulders and returned to looking over the smaller devices.

My attention was drawn to a massive golden cylinder, about one meter by three. I waited for it to fall the rest of the way to the floor, but it remained slightly elevated, obstinately stationary. No ground effect cushion of air was holding it up; no wires suspended it. It resembled nothing so much as a gymnasium "horse" with the sup-

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ports removed, so I vaulted onto the back of the thing. It settled momentarily beneath my added mass, then rose again to its original altitude. "Judith," I called, "toss me the trigger, will you?"

She extracted the ebony egg from the Outsider bagpipes and brought it to me with great care. "What's up?"

"This thing, and I'll be damned if I can figure out why." A pair of what were presumably controls projected from the cylinder's back, nearer one end. I slid toward what I assumed was the front of the contraption, and was pleased to find a depression for the activating device. I snapped it into place, and held the screwdriver against the trigger for a full ten seconds. "After all," I told Judith with impeccable logic, "this gizmo is bigger than the other two."

"Certainly," she said, hopping up behind me. "And if it blows up, we can both go together."

"What a heart-warming sentiment." Immediately before me lay a diamond-shaped, thirteen-by-thirteen array of tiny holes set into the metallic surface. They were the same depth and diameter as the one in the egg, so I stuck the screwdriver in the one at due north. The cylinder dipped its nose a few degrees and stopped. I inserted the screwdriver at due south, whereupon the artifact returned to the horizontal with the same measured dignity. "Wow!" we exclaimed in unison, then burst into laughter.

"I've got the knack of it now," I proclaimed. The hole at due east caused the cylinder to rotate slightly to the right, then stop. "Eureka."

"What about the lever?" Judith asked. It actually looked more like a toadstool on a long stalk in a high wind, but it was undoubtedly a lever for all that. Toadstools are not found at one end of a parabolic track with cryptic squiggles at regular intervals along it. I moved the lever a centimeter or so, and waited expectantly.

Judith noticed the effect first: a brilliant, blood-red circle of light on the rocky wall at which the cylinder pointed. Moving the toadstool further along the track widened the circle to a maximum diameter of about ten meters. "We were wrong," I told Judith. "This isn't a metal horse, it's an ambulatory flashlight."

"It is also," she pointed out, "the closest thing to a deathray we've found. And that door isn't going to last forever." As if for emphasis, the sputtering sound of laser vaporizing metal began to penetrate the cavern. "They'll be through soon."

"Perhaps we could blind them?" I suggested. "That second lever might be an intensity control." I moved the more distant toadstool the length of its track with an offhand gesture.

A bone-rattling thunderclap

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swept over us and went on and on. A detached part of my mind recalled that the human ear cannot detect echoes less than a tenth of a second apart, but the rest of me was too busy shuddering to care about explanations. When it finally died away, I shouted to Judith over the ringing in my ears, "What happened?"

She tried to speak, then shook her head. I looked where she was pointing, and saw it. A few thousand metric tons of rock had been replaced by a gently curving passageway, the ruddy guide light reflected weakly from its depths. Of the missing stone there was no trace. Somehow the golden cylinder had converted a small mountain into a very hard vacuum, into which the air of the chamber had expanded with explosive suddenness. "Judith," I said as my hearing returned, "we've found the Outsiders' tunnel borer!"

"So I noticed!" she laughed, exultant. Just then the tortured metal door at the other end of the storeroom gave way. It flew open; seconds later, a fusillade of slugs began to spray the cavern from floor to ceiling. "They're probably afraid to use lasers," Judith hissed, serious again. "They might damage something important. Let's go!"

"One problem," I reminded her. "By stuffing the right holes, I can make our transportation spin around in a circle, or even stand on its head—but I still haven't figured out how to get into first gear. And I'm not too enthusiastic about making a run for it in a dead-end tunnel. Emphasis on the dead."

"Your point is well taken," she said. By now a dozen guns were blazing away from the edges of the doorway, but the shots were going wild because of a paucity of eyes to guide the aiming process: not a single thug's head was visible.

"I wonder if they're afraid of thunder?" I asked.

"Who cares about their neuroses?" Judith wanted to know. "They'll charge us soon enough."

"Come on out of there, Endywy!" Gunther bawled from somewhere out of sight. "I'll let you and your friend go if you give me back the trigger."

"Like hell you will!" she yelled. That proved to be a mistake, for the gunfire that had been spraying the cavern at random now focused on our metal perch. "Sorry about that," she shouted to me over the din, as we plastered ourselves against the cylinder's back. "I just got so sick of listening to that gross creature."

"Then let's shut him up. Permanently." I wielded the screwdriver with zeal, rotating the business end of the artifact into line with the doorway. The gang had finally decided we presented no immediate danger to them, and were crowding into the storeroom. Herr Gunther stood well behind the wall of armed men, urging them to fol-

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low him into battle. I pulled both toadstool controls over to maximum simultaneously.

The results were as dramatic as they were gratifying: doorway, gunmen, Gunther, and another few thousand tons of rock vanished with a thunderclap, as though they had never been. And Snowball had its second new tunnel in two billion years.

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I broke the silence. "That certainly—eliminated our immediate problem. But we're prime targets in this shooting gallery as long as we have the triggering device. Any suggestions?"

"We can't leave it here," she observed. "I hate to think what the Society could do with these artifacts. It would put them above the law in fact as well as in intent."

"And they stole it in the first place," I reminded her. "What about the old guy who found it?"

"Incommunicado, and most likely dead," she replied without hesitation. "No chance there."

Distant shouts and gunfire could be heard now. I suddenly remembered the hired guns I had left sleeping peacefully in assorted hallways. "It sounds like they woke up just in time to resist arrest," I told Judith. "All the racket down here must have knocked every seismograph on the asteroid clear off scale. Cinader's men just stumbled over the goons on their way to investigate. While they're mopping up, we're leaving!" I popped the egg back out of the tunnel borer, and we set out for the *Syrtis Minor* as the closest thing to a safe place in several million kilometers.

Judith guided us through the maze of tunnels without a false turn. "This may be hard work," she said, breathing hard after we had rocketed through a particularly tortuous cluster of intersections, twisting and pushing off again and again for a few meters flight into still another hard rock wall. "But those stupid homers take the most direct route, even if it's right through a crossfire!"

"I'm not complaining," I panted. "Much."

After a seeming eternity of careening through the Outsider burrows, my companion called a halt. "We're very close to Lock B," she informed me. "With any luck, the asteroid's own security force isn't looking for *us* in particular yet. We ought to be able to brazen it out and get aboard ship."

"I may not have your native talent for it," I told her, "but I'm a willing pupil. Let's go!"

We traversed several common rooms full of people as calmly as possible, despite the sudden urge to have an extra set of eyes facing rearward. We were just disappearing into the lock area when I heard a faint cry behind us. It was Philadelphia, calling to me and gesturing wildly from across the

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crowd. "Oh, no!" I exclaimed. "Just what we need. Hurry, girl!"

She did. By a stroke of fortune, the lock keeper was none other than Aloysius O'Rahilly. "What's this, Al, a promotion?" I asked.

"Damned if I know what's going on." He shrugged. "The super pulled me off Lock A and said to mind the store here. I don't know where the regular duty shift went—except that they were headed there double-quick, and loaded for bear. You heard anything, Sergei?"

"Not a peep," I lied. "But I'm in something of a hurry myself. How about running an umbilical out to the ship for us?"

He looked at Judith, and back to me, with a slow smile, taking in our disheveled appearance for the first time. "Anything to oblige," he said, stepping to the controls. After a quick connection with the target came the agonizing wait while the corridor built up sufficient air pressure.

We were still waiting when Philadelphia tumbled into me, the result of a free-fall dive across the reception area that had gone astray somewhere in flight. My attempts to disengage the Certified Prophet were hampered by the bony fingers he had hooked into my clothing with surprising strength. "They're trying to kill me!" he kept repeating. "They're after me! You've got to save me, Captain, you've got to hide me on your ship!"

"They?" asked O'Rahilly with dawning interest. "Who are they?"

I had a strong suspicion, although I really could not see how the old crank had managed to run afoul of Cinader. Philadelphia was like a testy parrot, annoying but harmless. Until now, that is, when his pleas for aid were likely to prompt even O'Rahilly to ask some embarrassing questions. "It's all right," I cut in. "We'll take care of you, Philadelphia. You're welcome to come aboard until you feel better."

"That's right," Judith added soothingly, picking up my cue and the CP's other spindly arm. "I know just what you need, a nice, long rest." Together we carried him to the now-open umbilical and threw him in the general direction of the ship.

"Now just a minute—" O'Rahilly began.

"Thanks a lot, Al," I said, giving him a cheery wave from a safe distance. "'Bye." I followed Judith up the corridor, leaving the SL guard still sputtering.

Philadelphia had calmed down considerably by the time I joined him and Judith on the *Syrtis Minor*'s outer hull. He watched in bright-eyed silence as I keyed us into the airlock with all the speed I could muster. I slammed the outer hatch behind me, feeling more secure now that the three of us were jammed elbow to Adam's apple into the ship's lock. "Now they can't cut off our air," I grunted.

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"Not that there's much of it to spare in here!" The inner hatch was reluctant to open, as though a massive object were in the way. I braced myself and pushed until it suddenly gave. We spilled into the central shaft in time to see Brother Mongosa, almost mummified in Clinging Vine, enter center deck at high speed. The crash, and subsequent cursing that rose to our ears, were most gratifying.

I simply left the fulminating burglar where he had landed. I proceeded to disarm the remaining booby traps so that we could move around the ship without fetching up in the same deplorable condition as Mongosa. Ten minutes later we were assembled on center deck. "So what's our next move?" I asked Judith.

"We could move him," she volunteered, gesturing at the enmeshed Brother. "Right out the airlock without a suit, like Fingers."

"It was necessary," said Mongosa without emotion. "He was unreliable."

"And the ferry pilot?" Judith asked.

"He knew too much, and was going to turn us in."

"To Cinader," I added. "Which means that the Director-General is still loyal to the Society's leadership on Venus."

"Yes, he's a Mossback," Mongosa confirmed, his voice dripping scorn. "The damn fools. We'd have swept them out like dust with the trigger to make the artifacts run." He lunged against his bonds again, then subsided.

"How many of your faction are there on Snowball?" I wanted to know.

"Just me," he replied proudly. "I was Director-General here under another name, before I went underground. *I* found the artifact room. *I* made it a vault. *I* blanked that section of tunnels out of the main computer's memory, so that it effectively ceased to exist. And *I* followed up a hundred false leads, rumors of Outsider finds all over the System, until success on Mercury."

"And if *your* ambush aboard ship just now had worked, we'd be dead and the *Syrtis* would be in deep space by now, a tomb on a trajectory ending in the Sun." I looked at him without sympathy. "Although you almost blew me to hell and gone on your first try, which would have saved you the trouble."

"What first try?" Mongosa demanded.

"When you and your friends bushwhacked me near the Devil's Eye, after I got the trigger back. Remember?" I asked sarcastically.

"Bushwhacked? Devil's Eye? Cerenkov, what are you babbling about?"

"Don't get modest all of a sudden, Brother," I snapped. "It doesn't become you."

Mongosa shook his head in what seemed to be honest bewilderment.

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"I don't know what in blazes you're talking about. The only 'friends' I had operating on Snowball were those incompetent fools you disposed of in the tunnels; I barely got back to the ship ahead of you two. Anyway, none of those cretins would go onto the surface without triple pay, the clumsy asses." He sat brooding for a long moment. "Another thing: why, pray tell, would I want to blow you up *after* you got the trigger? Not that I'm overly concerned for your safety, but an explosion could have damaged the device." He shook his head firmly. "Somebody else doesn't like you either, Captain."

His logic was unanswerable. Judith's excited words broke into my whirling thoughts. "Sergei, I've got it!"

"Is it contagious?" I asked morosely.

She ignored that. "I know what to do with the triggering device! We can give it to my Uncle T.J."

"Him again? Wait a minute," I said, suddenly suspicious. "I seem to remember that your father was an only child."

"Oh, T.J. isn't really my uncle; but he's been a friend of the family since I was a baby, and insists I call him that. Now will you please listen?" she demanded.

"Well, OK. Even though I thought we'd decided to dump the problem in the government's lap, and let them go crazy for a while," I reminded her.

"But we are!" she insisted. "Uncle T.J. *is* the government, sort of. At least he says that the Speaker has more power than any one man should have."

"Speaker?" I said slowly. "T.J.? You mean that all this time your Uncle T.J. has been Thomas Jefferson Langan, and *you didn't tell me?*" The question that had begun softly finished in a well-modulated scream.

"You never gave me the chance," she said in a small voice.

"Perhaps not," I admitted. "For which I humbly and abjectly apologize. Now will you *please* get Uncle T.J. on the phone and tell him our troubles?"

"Of course, Sergei," she said with just a trace of smugness. "Right away."

12

"—and I'll be over as soon as I can get a few watchdogs together, my dear," the famous voice rumbled. "I told the lieutenant that you're only dangerous when you flirt, but he insists that I need my usual escort. And I must admit that your description of the goings-on in the bowels of this stone Swiss cheese makes even an old man like me a bit cautious."

"Don't joke, Uncle T.J.," Judith pleaded. "The Society is playing for keeps."

"So am I." The honey voice had an edge of steel to it. "See you soon." He broke the connection,

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and the viewphone screen went black.

Oblivious to our audience, Judith sprang from the communications console to my side in one fluid motion. "We did it!" she cried, hugging me.

"I hate to break up such a touching tableau," a dry, unfamiliar voice announced, "but I'll take the trigger now." I looked around in surprise, trying to locate the speaker. There were still only the four of us who had started out from Mercury. "Over here, Captain," said the voice. It seemed to be coming from Philadelphia!

"That's right, it's poor, crazy, old Philadelphia," said the Certified Prophet with a humorless smile. He gestured with the heavy laser pistol he had produced from his robes. "The device, and be quick about it!"

"Well I'll be damned," I exclaimed. "Doubly, triply damned! *You* must have been behind the sled attack on the dayside."

Philadelphia nodded. "I, and a couple of the uncritical Faithful who abound in such places as this. The Syncretist Church of the Transcendental High," he added contemptuously, "is full of such fools."

"But you've been working for the Church for years," Judith pointed out.

The Certified Prophet gave a short, unpleasant laugh. "If you call spouting drivel and raking off thirty percent of the take 'working', I suppose I have been. But my superiors, as they fancy themselves, have been as blind to the alien threat as everyone else." He shook his head as though to clear it; his eyes were feverishly bright. "Enough stalling. Throw the control device over here." A brief burst of laser light fried a patch of wall just over my left ear. "Now!"

"What if I refuse?" I asked. "If you drill me with that cannon of yours, you might accidentally vaporize the trigger as well."

"Remember the Devil's Eye?" His voice had a hysterical edge to it. "I *want* to destroy the accursed thing! So hand it over unless you want to share in its demise."

The gun was centered on my chest. I slowly reached into the proper pocket. "But why?" I asked, delaying as much as I dared. "None of those artifacts down there are any good without this." I gestured with the black egg.

"Exactly, Captain. I don't know what those infernal machines could do. I don't *want* to know!"

"And to hell with anyone who does want to, right?" I said.

"I am not concerned with the fates of individual men!" he shrieked. "My duty is to Man. He must be saved, saved from the legacy of those soulless aliens you call Outsiders. They *are* outsiders—outside the human pale, unpredictable, dangerous, deadly. They must be destroyed!" His voice rose to a

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screech, purple veins swelling beneath his sallow skin.

I never argue with a fanatic with a gun; maniacal xenophobes may be the worst of all. I tossed the triggering device just above his reach, and left his own clumsiness in free fall to do the rest. The laser pistol shifted away from my sternum as he lunged for the egg. He missed it, and his momentum carried him into a disorderly sort of a back flip. I hit him amidships before he completed his first revolution, breaking his wrist and vaporizing another section of wall while wresting the gun away from him. Philadelphia was a lousy cushion: too bony.

Moments later the F-sharp airlock tone sounded. Judith retrieved both pistol and egg in one smooth motion, and headed up the central shaft. "I'm going to get rid of both of these," she announced firmly. "That should be the Seventh Cavalry now, late as usual."

"Just use the viewphone to make sure," I cautioned her, trussing Philadelphia up with great care. "I'm getting sick of uninvited guests."

Soon I heard a happy cry of "Uncle T.J.!" from the lock, and I relaxed with a mighty sigh. I was so grateful that I made a firm resolve to buy a voting license in the next election.

The Speaker of the System Senate arrived on center deck in a close-packed cluster of Guardsmen, Judith firmly attached to one arm. His snowy eyebrows arched slightly when he caught sight of Philadelphia, resting in something less than heavenly bliss next to Brother Mongosa. "Two, my dear?"

"That's right," she said gleefully. "Sergei has been mopping up for you!"

I tried to look as modest as possible; a glance at the blistered wall had a sobering effect. "Excuse me, Mr. Speaker," I said, "but did you have any trouble within the asteroid? Because I'm sure our conversation with you earlier was monitored."

He flashed the famous Thomas Jefferson Langan smile, which would not have looked out of place on a cat with canary feathers in its jaws. "There *was* a slight misunderstanding about the artifact storeroom. But when I explained certain of the finer legal points of the Dewar Act, as amended, to Brother Cinader—well, he agreed without further ado to having a few of my watchdogs stand guard over the artifacts. And I do believe that the Society is going to donate the entire collection to the Science Office."

"Strictly out of the goodness of their hearts," I added.

"Strictly," he chuckled. "Just as you and Judith will probably both receive a medal and a citation for your Selfless Service to the government during Our Recent Crisis."

Judith and I groaned simulta-

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neously. "Don't you dare, Uncle T.J.!" she exclaimed. "If you try to make me into a heroine, I'll tell the whole Solar System about that stripper in Tycho City!"

"That won't be necessary, my dear," he said imperturbably. "But what of Captain Cerenkov? Perhaps he would not be so averse to a sudden upturn in his fortunes?"

I mulled over the idea of being a hero, then shook my head emphatically. "Thank you, Mr. Speaker, but no. Given my employers and my friends (any resemblance between them being purely coincidental), it would be more of a nosedive than an upturn! Anyway, I've gotten something much more valuable than a medal out of the whole affair." I nodded toward Judith, who was looking insufferably smug. "Homely as she is, she still has a wonderfully sweet, submissive personality."

"What?" she cried. "Why, you— I'll show you who's sweet and submissive!" She parted the cluster of Guardsmen like a ship's bow cutting water, and landed on my head. We went tumbling into the far wall, where I finally got a purchase on something. Within seconds I had the squirming, protesting girl tucked under one arm, while "Uncle T.J." watched approvingly.

She stopped struggling long before we got back to our suite. ■

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the reference library *Lester del Rey*

WAR OF THE SEXES

For quite a few years, I've been hoping fallaciously that we could get rid of the labels that indicate the sex of a writer, at least in the field of science fiction. What difference can it really make that the Northwest Smith stories were written by a very feminine woman? Their vigorous masculinity grew out of the type of stories they were, just as the female-centered nature of "No Woman Born" developed from the type of story it was.

A writer should be first of all a human being. Once he or she is sensitive to that fact, the artistic differences are of little significance when compared to the basic human requirements of literature. If a writer can't understand and empathize with all human points of view (and hopefully, some alien ones), that writer has no business in the profession of literature.

Of course, there is such a thing as a "lady writer"—one who writes the gushy things often found in the club news of the small local paper. But you'd be surprised how often some of those "lady writer" pieces are written by humans of the masculine sex.

The truth of the matter is that no editor can ever be sure (without knowing the writer) whether a story has been submitted by a man or a woman. Oh, in the case of very bad amateur efforts it sometimes seems obvious; but even there, no one can be sure by the evidence of the manuscript. The hard-boiled detective story by J. R. Doe may seem absolutely masculine—until one day Jean Rose Doe admits she wrote it. And the gushy love-pulp or over-female confession was written by a man in more than half of the cases.

Science fiction began with a concentration on gadgets and engineers, dealing with fields that were not considered favorable to women. Hence, it seemed pretty exclusively male territory. Yet there never was any real exclusion. Women began breaking into the pages of the magazines under their own names fairly quickly. And today, when I look at my shelf of favorite books, I find that a large number of them were written by women. Why not? We're all human beings together, aren't we?

Well, apparently Joanna Russ isn't willing to agree that we are. According to the publisher's newsletter, her **The Female Man** (Bantam Books, 214 pp., $1.25) is one of the first science fiction novels to be born of the Women's Liberation Movement. Fine. We could probably do with a little extrapolation as to what that movement will mean to the future. And I remember her "When It Changed" as a cracking good story of a world of women only, so I hoped this might

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be a novel along the same vein. Unfortunately, it isn't. It's a novel (or more appropriately, a novelty) that seems devoted to proving that men are an ultimate evil, unfit to be called human beings. It's an opening shot to start the war that will eliminate them from the human race.

It deals with five females who are or become in their own minds Men. (The capital M is Ms. Russ' usage.) There is Janet, from a world in a parallel future where all the men died in a plague nine hundred years before and the women have kept things going nicely by parthenogenesis, with no feeling of loss. There is Jeannine, from a slightly different parallel past, where World War Two was never fought and the depression still goes on. There is Joanna, apparently from our world. And there is (Alice) Jael, from a world where the sexes are engaged in direct, physical warfare. The fifth woman is (in the words of Ms. Russ) "the spirit of the author," an all-obtrusive character and viewpoint throughout in the first person.

It begins when Janet suddenly emerges in the world of Jeannine, where most of the action takes place. There is a fair amount of detail on Janet's world, less on the differences of Jeannine's world, and a sort of lecture tour of "the author's" views with a minor travelog to keep things moving, after a fashion. Somehow, the various characters all get together; it's sometimes difficult to be sure just which ones are present, since others beside the "author" also give first-person lectures; but they visit a party where women are shown as silly puppets and men as beasts, then to a typical family where Janet makes out with a teen-age girl, then to a vacation with Jeannine's family, where everyone is trying to shove Jeannine into the acceptable housekeeper-breeder image.

After which, we get the real meat of the book in Part VII–how "I turned into a Man"–that is, decided to be a Man inwardly. After which, we all move over to the world where Jael waits to recruit our worlds into the great war against Men, for their eventual elimination. This includes a satisfying picture of the killing of a Man by Jael. And we finish with a straight lecture from the author.

But where's the plot, you ask, perhaps? That *is* the plot! Indeed, put down that simply, it seems to be more of a story than the impression given by the book. I'm not even sure that the physical movement of the characters actually takes place; some of them seem to be present at various times only in spiritual form. And there are some indications that the whole "novel" takes place in the head of one of them–probably the "spirit of the author".

It's a shame, because there could have been a good novel in the basic idea with which this began. The idea of the world of Janet, lacking men for 900 years, intersecting that of Jeannine–or our world–would have made an interesting study, with the conflict growing out of the differences with which each society considers matters of importance in

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the conduct of human affairs.

But as it stands, this is almost purely polemic. It is straight ultra-militant Feminism carried to the limit for propaganda purposes. No effort at considering anything beyond that is given. No attempt is made to balance ideas and evaluate them. There are simply good guys (female) and bad guys (male). Female sexual activity, as shown in the book, is warmth and affection. Male sexual desire is disgusting, bestial, and despotic, not to mention silly, simpering, and slovenly.

In a way, it's an interesting study. This is one of those rare cases of a truly schizophrenic book. The characters are like the largely mythical multiple personalities within a single head that were used in a number of novels a few years ago. The action proceeds in jerks, without necessarily being rational; and the logic is that starkly obsessive type found in some forms of psychoses.

It's an angry book that turns first to rage and winds up in fits of jealousy and hate. It's a wish dream of vengeance, a vendetta against all the male half of mankind.

I suppose one might call this proselyting a result of the Women's Liberation Movement, since I've met a few members who show traces of having the same desire. But I hope it isn't a typical example of what is to come, and that the majority within the movement who desire a balance of rights, rather than a massacre, will find other works of science fiction to speak for them.

In any event, this book fails as entertainment. I doubt that it can succeed in any other way, either, since it is hardly going to convince many who are not already of similar convictions. The rages and hatreds dominate the story until there is no story left to follow. And the lectures go on and on. In the end, the book seems neither controversial nor important, but merely rather pitiful.

Katherine MacLean is one of the writers of science fiction who happens to be a woman. She has been appearing off and on—and rather more off than on in number of appearances, unfortunately—for some twenty-five years. It's hard to believe that **The Missing Man** (Berkley Publishing Corp., 287 pp., $5.95) is her first novel. I hope the waiting for her next one won't be more than a tenth as long.

This is another novel of psi-powers, but in this case psi is used for a purpose, rather than an indulgence, and it serves well within the frame of that purpose. It's also rather well thought out, unlike much of the psi-fiction that gets published.

It begins with a New York City of the future which is under considerable computer control, with the technicians on top and the rest of the people fragmented into similar-interest communes. Many cannot compete successfully for the technical jobs and are either exiled or sterilized before going on welfare. George is just finding that he cannot compete when he discovers his real ability, apparently.

Psi-powers have increased by

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then, obviously. And when anyone of strong powers is in some desperate situation, he broadcasts so strongly that it casts an almost physical pall over the city—and drives others to acts of violence. To combat this, there is a Rescue Squad, usually ineffective; George finds he has an unusual ability to locate the desperate person by putting himself into that one's emotional fix. And he is hired as a consultant to locate anyone intent on murder, suicide, or what have you.

Meantime, the technology is breaking down, the different ghettos and communes (each somewhat autonomous) are struggling for power, and there are the youth gangs to contend with. It's a complicated future MacLean gives us, but one with more texture to its breakup than most I've seen. Some of the elements are fantastic—a carnival in which the Aztec-imitating commune tries human sacrifice, for instance. But they work. Other elements are seemingly so slight that they can be overlooked unless you read every sentence; there's a gift of a quarter by a guru named Adam that seems to be overlooked, though it should save George's life; logical, in the end, but explained in a single sentence, almost casually.

And then there's Larry, a genius leading a kid gang who has declared total war on the establishment—for reasons that begin to make excellent sense somewhere along the line and which may be the key to the future of humanity.

Sometimes, the novel seems to be drifting far from its original seeming purpose. But in the end, it turns out that Miss MacLean knew precisely where she was going from the beginning and has been moving steadily by her own means toward her goal.

As has often been true with her stories, this is a novel dealing with the problem of communication—and what communication really means. (Maybe she should try a Women's Liberation novel; surely that's an area where the problem of communication is paramount.)

It is also a novel which deals with the temptation of power and handles that with considerable skill, both in its examples of the failure of one group to avoid such temptation and of the hero's struggles with it. There's a lot more to George than there seems to be when we first meet him.

All in all, a very good first novel, despite small faults, such as shifting the viewpoint—in a first-person story—to George's friend Ahmed and others a few times. Anyhow, with George's psi-ability, this almost seems natural. I recommend the novel.

And to begin giving equal time to the male writer, there's **2018 A. D. or the King Kong Blues,** by Sam J. Lundwall (DAW Books, 160 pp., $1.25).

Lundwall is one of the multi-talented people who can do anything, seemingly. He writes, publishes, composes music, and sings it well. He has translated great gobs of American science fiction into Swedish. And this time, he has translated his original Swedish novel into excellent English. (He's also a

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very charming man, but that has nothing to do with his fiction.)

This novel is a dystopia—an anti-utopia. And according to the publisher, this may be the novel of this decade to do for us what *Brave New World* or *1984* did for other decades. As the title indicates, it's laid about forty years in the future, and it indicates that all is not going well for the human race.

Most of the action of the novel takes place in Sweden; but since Sweden, by most predictions, has a better chance in the dark years often forecast for our future, we can guess that the rest of the world is in even worse shape. The story follows four main characters and their interaction on each other. Aniki is one of the poor—though not one of the desperately poor. She lives in a section that is dangerous for outsiders and most residents, gets by on her body, and depends on the local gangster leader. Kockenbergh is a magnate in MultiCo, one of the international cartels that seem to own the world. He employs Lenning—a high-paid executive flunky—to locate Aniki for an advertising campaign. And off-side we have Sheikh Umir who controls the only country with much oil left; he's worried over the fact that his brother seems bent on controlling the world, rather than pursuing the ancient Bedouin traditions. They all get completely tangled together, one way or another; and the story of Sheikh Umir's brother Yarasin is the key to everything else.

As a story, it isn't too bad—particularly the parts from the view of the two Bedouins. Lundwall handles his characters well (though a little obviously in the case of Kockenbergh) and he manages to make the search for Aniki a successful means of furthering the story. The ending isn't much more than a clever trick—but what do you expect from a dystopia, which cannot logically have a happy ending sewn onto it?

As an anti-utopian novel, however, I find it totally unshocking. It deals with excesses in advertising (some clever, some not), with crime in the city and overpopulation, with housing shortages, with oil shortages, with the break-up of family life, with smog, the growing reliance on computers, with inflation and declining values . . .

Sounds familiar, doesn't it? Sounds as if this successor to *1984* should be entitled simply *1974*, which is a curious kind of progress for shocking dystopias.

Oh, things are somewhat worse in 2018, according to the book. Perhaps from the Swedish point of view, they are shockingly worse; but from where I sit in New York City, there are elements of exaggeration, but most of the book could be happening very soon, and some of it is happening right now.

Lundwall offers us an Appendix in which he cites references to prove that "*this is a novel about what is happening right now.*" And that's the trouble—it is about what is happening right now.

It's not a shocker, but it is fairly amusing, and some parts show a nice sense of appropriate exaggeration. You might enjoy it, but don't expect to be shocked, or to feel that it's science fiction.

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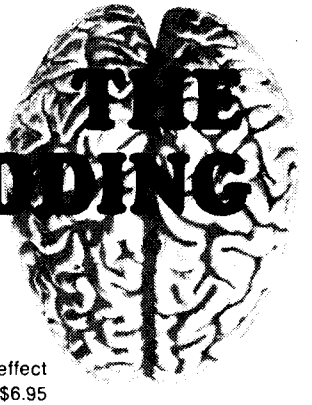
"If one is predicting what science fiction will be like in ten years, I would expect Watson to be playing a key role in it."*



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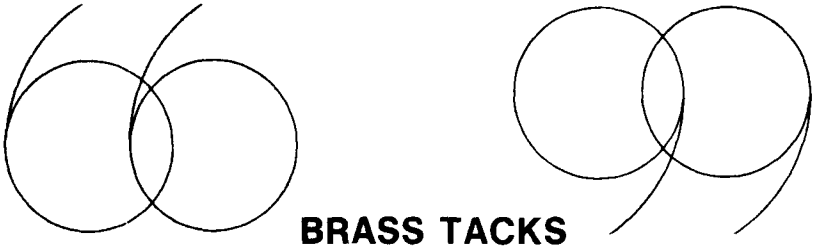

Dear Mr. Bova:

In his review column for the last issue of *Worlds of If* for December 1974 Lester del Rey says on page 39:

> ". . . Thus jaded after five years of reading I feel that a long rest and a return to reading as it should be done is highly desirable. I've said much of what I wanted to say. And it's time to stop. In fact I believe that I might have done better to stop a year or so ago . . ."

Can you or Mr. del Rey tell me, in light of this, why he is the book reviewer for Analog?

BARRY N. MALZBERG

Lester agreed to review books for Analog because the Editor asked him to fill the breach caused by P. Schuyler Miller's death. And, as many a baseball player has found when he was traded to the Yankees, you get new vigor when you're working with the champs.

Dear Mr. Bova:

In the December Brass Tacks Carol D. Dawson eloquently said what I have often thought, and occasionally written, about SF. In stating the problem, she has left me free to take the other side and point out what is positive about the roles of women as readers, authors, editors, and characters.

The first step in eliminating sexism is to recognize the problem. With a raised conciousness, women and men are now protesting against stereotypes and inequalities. These may have been fine for prepubescent rocket stories, but now are as unacceptable as dandruff. However, we need to continue one step farther and appreciate the progress which has been made so far. SF is not blissfully free of sexism, but it is steadily improving. . . .

Although only 1½ stories published in Analog from June to December 1974 were by women, there have been several significant characters, notably Gretchen Nunn in "Four Hour Fugue," Marygay and other female soldiers in Joe Haldeman's series about the Tauran War, Natoma, Fee 5, and Borgia in "Indian Giver" and Dolores Gomez in "Stargate."

Women have also appeared in

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various decision-making capacities, such as President of Mars, founder of an experimental ocean research station, a Friend of the Enemy, a body-guard, an astrogater, and geologist-miners. (A note to authors where the last two mentioned appeared: females over the age of 18 are women, not girls, and for consistency if nothing else, don't use the women's first names if the men are called by their last names . . . Norah vs. Culkin, for example.) Even in secondary roles as supporting players women were usually not just voluptuous scenery, mindless prizes, or pneumatic sex objects.

One sure indicator of women's arrival in SF is the number of books written to cash in on the new market with a "wimmin's lib" gimmick. My favorite atrocity is Edmund Cooper's *Gender Genocide* which has almost as many laughs per page as *The Inevitability of Patriarchy*.

Once we realize that sexism exists, the trick is to still be able to see where it *isn't*. Stanley Weinbaum's reissued collection is a good exercise for those who sometimes lose sight of the forest for the trees, since his message is a humanistic one packaged in the conventions of his era.

It's premature to stop and collectively pat ourselves on the back, because the war hasn't been won yet. But the skirmishes are looking better and better.

LOLA L. LUCAS
8246 Jefferson
St. Louis, Missouri 63114

Good science fiction is about people, and the only people who can write completely convincingly about women are women. So why don't you feminists get to work?

Dear Mr. Bova:

Dr. Andrews' snide remark, "Imagine, Nature affecting History," in February's Brass Tacks is absolutely meaningless. It is not only accepted that natural events do affect the course of human history, but historians look for natural causes in attempting to explain large-scale events. The event may be small, in fact, for large effect. A few years of higher than normal crop yield in Mongolia and Genghis Khan could support an army large enough to conquer half the world. Dr. Andrews' comment smacks of one of the tactics Jueneman mentions in his article (October 1974), misquotation and attacking the misquote . . .

However, must we accept all of Velikovsky's theories as an indivisible block? May we not accept as possible his reinterpretation of history in *Ages in Chaos* without his mechanism as put forth in *Worlds in Collision?* Admittedly, it is impossible to confirm or rebut either book without a time machine, but still the history is more plausible than his astronomy. As an alternative to the planetary ping-pong postulated by Dr. Velikovsky, the following mechanism is possible. First, archeology has determined that the island of Thera exploded around 1500 BC. It has been postulated that the atmospheric and seismic effects from this explosion might have created the events of the

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Exodus, destroyed one of the phases of the Minoan culture (Thera is located in the Sea of Crete) and inspired the legend of Atlantis. If Velikovskians demand an alternative, this will suffice, and allow most of his assumptions. Until the aforementioned time machine is built, only Occam's razor will choose between the two scenaria.

A decent scientific view of the world will account for all experimental data. In this spirit I issue this challenge: that any scholar or scientist, following Dr. Velikovsky's theories completely, explain Stonehenge without random chance in the astronomical data. I expect a point-by-point rebuttal to Hawkins' theory as expressed in *Stonehenge Decoded*, and to the conventional history of the structure.

I trust you will pardon me for reopening the issue of Dr. Velikovsky, but Analog is responsible for my interest in his theories and Dr. Andrews reached a sensitive spot. The idea factory is still working and I hope it continues even on CP ideas.

JOHN W. FILPUS
534 North Wonders
East Lansing, Michigan 48824

Thera's explosion would not account for some of the astronomical phenomena Velikovsky cites, such as the de-rotation of the Earth. But then, nothing else has accounted for that—if it in fact occurred.

Dear Mr. Bova:

The Brass Tacks section of the February Analog is thought-provoking. Unfortunately for some of the contributors, the thoughts which were provoked were not very complimentary.

Several of the letters which refuted the stand that Isaac Asimov took in the October issue reveal a certain ignorance—the very ignorance that Dr. Asimov denounced in his article. For instance, Mr. Kazmann, in his letter, states ". . . if the radiocarbon date is correct King Tut was interred in a coffin made from mature trees that were saplings 200 years before he died!" Nothing is unbelievable about that. Under normal conditions it is quite possible for a tree to have aged two hundred years from the time it was a sapling (in its early youth) to the time it was cut down. As a matter of fact, a tree would have to be about that age at least in order to be large enough to have a coffin carved out of it, as, I believe, the Egyptians usually did. Mr. Kazmann later asks, "And, by the way, where did Dr. Asimov get his 75 percent for Venus' atmosphere?" The answer is, of course, he didn't get 75 percent. I refer to Asimov's article in the October Analog: "It turned out that . . . [the atmosphere of Venus] was made up of at least *ninety* percent carbon dioxide." (The emphasis is mine.)

In another letter, written by one James Downard, it is said that Dr. Asimov's article in the October 1969 issue of *Fantasy & Science Fiction* cites no outside source. It does, though: *Worlds in Collision*, by Immanuel Velikovsky.

Several people object to Asimov's labeling of Velikovsky as a crackpot. It seems that they also

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deserve this label, especially those who try hardest to defend their idol. One would think that they would at least plan their defenses rationally. But then, can one really expect people of average intelligence to think rationally?

ALAN L. BOSTICK
c/o Hawaii Prep. Academy
Kamuela, Hawaii 96743

Often a person's defenders cause him more trouble than his attackers. Many Velikovsky supporters are classic cases of the "Save the Phenomenon" type of thinking. That is, they believe Velikovsky is correct, so they will invent arguments to support him, rather than seek evidence and evaluate it objectively. Of course, the Velikovskians complain that "organized science" does exactly the same thing to Velikovsky—and with some justification!

Dear Ben:

I have just looked over the letter column in the February 1975 issue and have taken note of all the sweet valentines I received for daring to say that Velikovskian notions are well-rotted horse manure.

For getting the details wrong on the original events in connection with the publication of the book *Worlds in Collision*, as noted by Damon Knight, I am sorry and apologize. Concerning my remarks about the weakness of the scientific orthodoxy, I recognize that there are arguments on the other side—although as you all must admit, many scientific frauds do very well financially and none has ever been burned at the stake by scientists.

As to my feelings about the worth of Velikovskian notions, that remains unshaken. If my remarks were *ad hominem* so be it. The remarks of my critics are also *ad hominem*, and I happen to be a kettle who pays no attention to pots calling me names. I merely point out that what was asked for, and what I delivered, was a lighthearted piece in answer to Mr. Jueneman's peculiar essay. There was no bibliography because in my opinion a bibliography would have been inappropriate and anyone asking for it reveals an unlovely streak of pedantry.

Finally, as to the facts of the matter—

Since the October issue with my article appeared, astronomers have reported that the Jupiter-probe findings of Pioneer 10 indicate that Jupiter is essentially a ball of hot hydrogen, liquid for the most part. How the devil it can emit Venus, which is a ball of rock and metal, much like the other inner planets in structure, no one can possibly explain. A piece of Jupiter the size of Venus hurled toward the inner reaches of the Solar System would simply evaporate.

Naturally, the Velikovskian answer will be that the scientists are mistaken, stupid, and malicious liars, but I don't think so.

As for myself, I am still laughing and laughing, and rather pleased that my article has punctured the Velikovskians and set them to howling. Howl away—

ISAAC ASIMOV

The last laugh, as well as the last scream of outrage, has yet to be heard on the Velikovsky matter.

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Editorial *continued from page 8*
know how the Easter Island statues were set up, how the Stonehenge monoliths were erected, and how our Cro-Magnon forebears decorated their caves. There is no discernible need for anti-gravity stone carriers, or laser cutting tools.

Much the same situation holds true for the Creationists who damn Evolution as false and heretical dogmas. Aside from claiming that Evolutionary theory is incorrect, they do nothing to support their own ideas about Creationism with solid evidence. They have not demolished Darwin's work, although they delight in pointing to controversies over the details of fossil interpretation or other arguments among scientists as "proof" that Evolution is an invalid concept. It never percolates into their minds that scientific thinking is a *process*, aimed at learning more and ever more about the universe, and of course scientists with differing views will argue their cases against each other. Argument is a fine way to get at truth, as Socrates pointed out long ago. And no scientist is arguing that Darwin was wrong and Evolution is nonsense.

But the attacks by the Creationists cannot hide the fundamental weakness of their position. What evidence have they produced to support their belief that the universe was created by a Divine Force? None whatsoever. There is no evidence, and they cannot make evidence by denigrating the fossils and miscrosope slides of the scientists. God may truly have created the world, but the evidence He left behind shows that He spent several billion years on the task, and made Man not out of clay, but out of the mutated genes of a type of tree shrew.

Uri Geller? A man who's clever with his hands, fast with his mouth, and—according to the British journal *New Scientist*—may very well pack a miniature radio in a hollow molar tooth. The Bermuda Triangle? I've sailed through it twice, and saw nothing more exciting than cavorting dolphins and tourist-trap islands. Practically every shipping line still extant in these difficult economic times plies the waters of the Bermuda Triangle daily, and the only thing that disappears is the money that the tourists bring with them. Commercial tourist flights jet across the "Devil's Triangle" every hour. There are probably more strange disappearances on the Seventh Avenue subway line in New York than have ever occurred in the Bermuda Triangle.

Which leaves us with the Dean Drive.

In 1956 Norman L. Dean, of Washington, DC, applied for a patent for a device that converted rotary motion into unidirectional motion. The patent was granted in 1959 (number 2,886,976), and during the following few years the

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Dean device stirred up a major rumpus in the pages of Analog. For Dean was claiming *unidirectional* motion—action without reaction, a violation or circumvention of Newton's Third Law, a device that could be turned into a reactionless space drive and make rockets obsolete.

At first no one but John Campbell and a few Analog readers were interested in seriously testing Dean's claims. G. Harry Stine, a topflight aerospace engineer and steady contributor to Astounding/Analog, was one of the few. Together with a couple of colleagues, Dr. William O. Davis and E. L. Victory, they investigated the peculiar physics that goes on in rapidly rotating bodies. They found some interesting surge effects, unbalanced forces that occur when a mass is suddenly started spinning. Davis even wrote an article in the May 1962 Analog titled, "The Fourth Law of Motion."

They did not find any substantiation of unidirectional, reactionless motion. No space drive. Dean's device scooted across the floor nicely, and jiggled bathroom scales so that you might suspect it was weighing less than it did when at rest. But Stine and his co-workers came up with a simple, even elegant, experiment to test the unidirectional motion idea. They suspended the Dean device from a long pendulum. If it produced unidirectional motion, it would move itself off the plumbline and stay offset to one side. Dean's device, and the dozens of others that were tested, all oscillated around the plumbline. None of these devices

in times to come Why is it that dictators such as Hitler and Stalin could not understand the strength and resiliency of American society? Why do so many politicians and even scholars in rigid, state-controlled nations think that the end of democracy is at hand every time a nation like ours goes through one of its periodic internal upheavals? Why do so many Americans fear that our Government will topple and anarchy will stalk the streets whenever there's a riotous demonstration in the streets or the press uncovers new evidence of evil deeds in high places? In next month's lead novelette, George R.R. Martin deals with the realities of a very rigid society conflicting with what looks like a pushover primitive tribal society; and we find out where strength really lies. It's called "And Seven Times Never Kill Man." The cover painting is by John Schoenherr.

Norman Spinrad examines two possible futures in store for us in his science fact article, "Energy and Survival: The Fork in the Road." Certainly it's easy to foresee that nuclear fusion and other advanced technology will eventually solve our energy problems for all time. But how far away is "eventually"? And what must we start doing *now* to make that happy future come about? As Spinrad shows, the decisions we make today are determining our survival for all time to come.

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showed unidirectional motion.

A machine that can't move itself slightly to one side, while suspended by a long pendulum, will not lift itself off the ground and go exploring Mars. Sad, but true.

Within the past six months, Professor Eric Laithwaite, of Imperial College, London, has apparently rediscovered the Dean device. Independently, he has built a similar machine that spins contra-rotating metal weights and jiggles a bathroom scale. Laithwaite is a respected figure of the scientific establishment in Great Britain. I doubt that this will enhance the performance of his machine. Sooner or later, he or someone else will attach his machine to the longest pendulum available, and find that it doesn't move itself permanently off in one direction.

This is not to say that there aren't interesting, and ultimately useful, forces at play in the gyroscopic effects of rapidly spinning bodies. Studies at Yale and at Drexel University have shown that gyroscopes can deliver thrust forces well in excess of what simple calculations would predict, based on the gyro's rest mass and rotation rate.

How to use those forces is the question. And Harry Stine, when last heard from, muttered darkly, "It'll never work as long as they stick with mechanical systems. Electromagnetic, now . . ."

He's promised to write an article for Analog on the subject. Those who *have to see* a reactionless space drive may get their wish, after all. But only when there's enough evidence to turn the wish into a reality.

THE EDITOR

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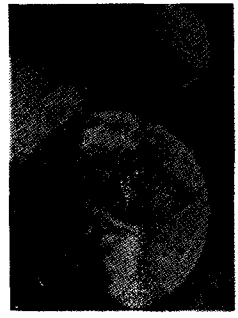

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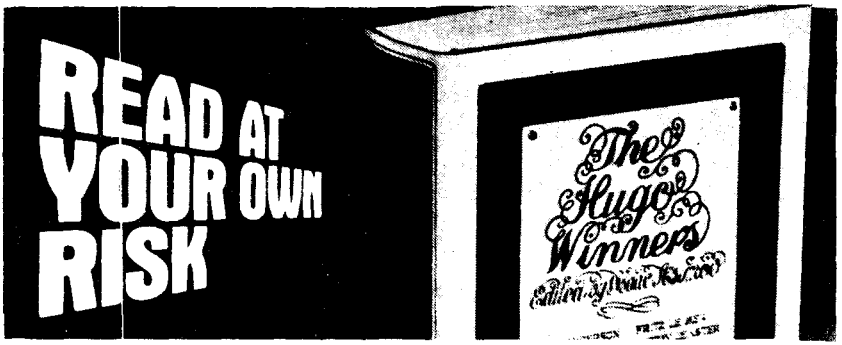

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